



509537
1.6

PROJECT NOTE



To: Jard Company Inc. Hazard Ranking System Project File

SDMS DocID 584909

From: John Burton, Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team III (START)

Thru: Mr. John F. Kelly, Project Leader, START

Date: 2 October 2013

RE: Source, Surface Soil, and Sediment Sample Sample-Adjusted Contract Required Quantitation Limit Calculations and Form Is
Case 43395; SDG A4C22
TDD No. 13-09-0001; Task No. 0904-48; DC No. A-6873

Introduction

The following Project Note describes the sample-adjusted Contract Required Quantitation Limit (CRQL) calculations for polychlorinated biphenyls (PCBs) analytical results of two sediment samples collected from a background wetland located upgradient northeast of the site. The samples were collected by Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team III (START) for the purpose of performing a Site Reassessment in support of a U.S. Environmental Protection Agency (EPA) Hazard Ranking System (HRS)/National Priorities List (NPL) Documentation Record. The analytical data were validated at a Tier II level according to Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses and the USEPA CLP National Functional Guidelines for Superfund Organic Methods.

Table 1 of this Project Note summarizes the validated analytical results for PCB analysis. Table 2 of this Project Note reports the sample-adjusted CRQL for each sample, which is either the CRQL or a raised value due to the dilution factor, percent solids, sample volume, and/or final volume. Tables 1 and 2 are included in *Attachment A* of this Project Note. The memorandum detailing the original validated results is included in *Attachment B* of this Project Note.

Copies of the pertinent Form I's have been included in *Attachment C* of this Project Note. CRQLs are listed in the *USEPA Contract Laboratory Program Statement of Work for Organics Analysis, Multi-media Multi-concentration, SOM01.1*, and the *Modifications Updating SOM01.1 to SOM01.2*, for PCBs, the pertinent portions of which are included in *Attachment D* of this Project Note.



Sample-adjusted CRQL Determination for Soil/Source and Sediment Samples:

The sample-adjusted CRQLs were calculated as follows: the PCB sample-adjusted CRQLs [in micrograms per kilogram ($\mu\text{g/Kg}$)] was calculated by multiplying the CRQL (in $\mu\text{g/Kg}$) for the substance by the method extraction weight [30 grams (g) nominally], dividing this result by the dry weight extracted (in g), and multiplying this result by the dilution factor. The dry weight extracted (in g) is calculated by multiplying the percent solids, expressed as a decimal, of the sample (100% - percent moisture) by the wet weight extracted (in g) of the sample. The percent moisture, wet weight extracted, and dilution factors are reported on the Form I for the sample.

$$\text{Sample-adjusted CRQL } (\mu\text{g/Kg}) = \frac{[\text{CRQL} \times 30\text{g}]}{[\%S \times W_w]} \times \text{DF}$$

CRQL = in $\mu\text{g/Kg}$

W_w = wet weight extracted (g)

$\%S$ = Percent Solids (in decimal form)

DF = Dilution Factor



Attachment A

Tables

SITE: JARD COMPANY INC
CASE: 43395 SDG: A4C22
LABORATORY: CHEMTECH
CONSULTING GROUP

DATA SUMMARY TABLE 1
AROCOR IN SOIL ANALYSIS
µg/Kg

SAMPLE NUMBER			A4C22	A4C23				
SAMPLE LOCATION			SD-51	SD-50				
STATION LOCATION			JCS-559	JCS-556				
LABORATORY NUMBER			E1925-04	E1925-05				
COMPOUND	MDL	CRQL						
Aroclor-1016	1.8	33	71 U	120 U				
Aroclor-1221	5.4	33	71 U	120 U				
Aroclor-1232	0.90	33	71 U	120 U				
Aroclor-1242	4.3	33	71 U	120 U				
Aroclor-1248	1.9	33	71 U	120 U				
Aroclor-1254	2.2	33	71 U	120 U				
Aroclor-1260	2.2	33	71 U	120 U				
Aroclor-1262	9.8	33	71 U	120 U				
Aroclor-1268	4.6	33	71 U	120 U				
DILUTION FACTOR			1.0	1.0				
DATE SAMPLED			4/16/2013	4/16/2013				
DATE EXTRACTED			5/31/2013	5/31/2013				
DATE ANALYZED			6/3/2013	6/3/2013				
SAMPLE WEIGHT (GRAMS)			50.0	50.1				
% SOLID			28.0	17.0				

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
CRQL = Contract Required Quantitation Limit
MDL = Method Detection Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.

SITE: JARD COMPANY INC
CASE: 43395 SDG: A4C22
LABORATORY: CHEMTECH
CONSULTING GROUP

DATA SUMMARY TABLE 2
SAMPLE ADJUSTED CRQL
µg/Kg

SAMPLE NUMBER			A4C22	A4C23				
SAMPLE LOCATION			SD-51	SD-50				
STATION LOCATION			JCS-559	JCS-556				
LABORATORY NUMBER			E1925-04	E1925-05				
COMPOUND	MDL	CRQL						
Aroclor-1016	1.8	33	71	120				
Aroclor-1221	5.4	33	71	120				
Aroclor-1232	0.90	33	71	120				
Aroclor-1242	4.3	33	71	120				
Aroclor-1248	1.9	33	71	120				
Aroclor-1254	2.2	33	71	120				
Aroclor-1260	2.2	33	71	120				
Aroclor-1262	9.8	33	71	120				
Aroclor-1268	4.6	33	71	120				
DILUTION FACTOR			1.0	1.0				
DATE SAMPLED			4/16/2013	4/16/2013				
DATE EXTRACTED			5/31/2013	5/31/2013				
DATE ANALYZED			6/3/2013	6/3/2013				
SAMPLE WEIGHT (GRAMS)			50.0	50.1				
% SOLID			28.0	17.0				

NOTES: µg/Kg = micrograms per Kilogram
All results are reported on a Dry Weight Basis.
CRQL = Contract Required Quantitation Limit
MDL = Method Detection Limit
U = Value is Non-Detected.
UJ = Value is Non-Detected, and Detection Limit is Estimated.
J = Value is Estimated.
R = Value is Rejected.
* = Reported value is from diluted analysis.



Attachment B

**Data Validation Memorandum
Case No. 43395; SDG No. A4C22**

- NA • Sensitivity Check (MDL Study or LFB).
- * • PE Samples/Accuracy Check.
- * • Target Compound Identification.
- * • Sample Quantitation and Reported Quantitation Limits.
- NA • TICs.
- * • SVOC and PEST/PCB Cleanup.
- * • System Performance.
- NA • SEDD/ADR.

* = No qualifications will be applied based on this parameter.

Table I summarizes overall evaluation of the data with reference to the DQO and potential usability issues. Qualified data are summarized in Data Summary Tables 1 and 2.

Overall Evaluation of Data and Potential Usability Issues

See Table I for overall evaluation of data and potential usability issues.

PE Samples/Accuracy Check

The criteria used by START for qualification of sample data based on the PE sample results are as follows:

PE Score	Action	
	Non-Detects	Positive Results
In Window	Accept	Accept
Warning Low/High	Accept	Accept
Action Low	Reject (R)	Estimate (J)
Action High	Accept	Estimate (J)
TCL Misses	Reject (R)	Varies
TCL Contaminants	Accept	Varies
TIC Misses	Varies	Varies
TIC Contaminants	Varies	Varies

All non-compliant PE scores were investigated by checking raw data, calculations, calibrations, possible matrix interferences, and blank contamination. Unless otherwise noted, all results reported by the laboratory were found to be correct, based on the data generated by the laboratory.

The laboratory properly identified and quantified the soil Aroclor-1242 PE sample (A4C31, PE No. ASX0179). No qualifications were applied.

The laboratory properly identified and quantified the soil Aroclor-1242 PE sample (A4C20, PE No. ASX0182). No qualifications were applied.

The laboratory properly identified and quantified the soil Aroclor-1254 PE sample (A4C21, PE No. AS1486). No qualifications were applied.

The laboratory properly identified and quantified the soil Aroclor-1248 PE sample (A4C32, PE No. AS1431). No qualifications were applied.

Sample Quantitation and Reported Quantitation Limits

The percent moisture for sediment samples A4C22 and A4C23 was greater than 70% but less than 90%. The SOW indicates in Exhibit D, Aroclors, Section 10.1.4.3.2, that if a sample contains greater than 65% moisture, the laboratory may use up to 50 grams without contacting the Sample Management Office (SMO). Per direction of the Region, these two samples were re-extracted, re-analyzed, and validated in this SDG. A 50-gram extraction weight was used. These samples were originally validated in SDG A4C19.

Ms. Martha Bosworth
21 August 2013
Page 4

Case 43395; SDG A4C22

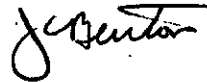
Please contact the undersigned at (978) 552-2100 if you have any questions or need further information.

Very truly yours,

WESTON SOLUTIONS, INC.
Region I START



William W. Mahany
Principal Project Scientist



John Burton
Lead Chemist

email cc: Jennifer Feranda (CLP PO - Region II) - DV Letter w/Data Tables, and ORDA Form only –
Feranda.jennifer@epa.gov

Attachments: Table I: Overall Evaluation of Soil Data
Data Summary Key
Acronym List
Data Summary Table 1
DV Worksheets
PE Sample Score Reports (included in DV worksheets)
Field Sampling Notes (including a copy of sampler's COC Records)
CSF Audit (DC-2 Form) - Evidence Audit Photocopy (Including CSF Receipt/Transfer Form)
DQO Summary Form

S:\12100008\Analytical\Case_43395\A4C22\A4C22_val_.doc

TABLE I

JARD COMPANY INC
Case No. 43395; SDG No. A4C22

Overall Evaluation of Soil Data

AROCLOrS					
DQO (list all DQOs)	Sampling and/or Analytical Method Appropriate Yes or No	Measurement Error		Sampling Variability**	Potential Usability Issues
		Analytical Error	Sampling Error*		
1. To obtain sufficient data from surface and subsurface soil samples collected at the Jard Company site for PCB (Aroclor) analysis, to document potential source areas located on and off the property, and to document contamination in the soil and sediment associated with source areas located on the property.	<i>Analytical Method:</i> Yes, SOM01.2 <i>Sampling Method:</i> Yes, Hand Augers, and Stainless Steel Scoops.	Refer to qualifications in attached Data Summary Table 1.	Refer to qualifications in attached Data Summary Table 1.		None.

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

**DATA SUMMARY KEY
ORGANIC DATA VALIDATION**

- J = The associated numerical value is an estimated quantity.
- R = The data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification. The R replaces the numerical value or SQL.
- U = The compound was analyzed for, but not detected. The associated numerical value is the SQL or the adjusted SQL.
- UJ = The compound was analyzed for, but not detected. The associated numerical value is the estimated SQL.
- EB = The compound was identified in an aqueous EB that was used to assess field contamination associated with soil/sediment samples.
- TB = The compound was identified in an aqueous TB that was used to assess field contamination associated with soil/sediment samples.
- BB = The compound was identified in an aqueous BB that was used to assess field contamination associated with soil/sediment samples.

ACRONYM LIST ORGANIC DATA VALIDATION

AQ	aqueous	SQL	Sample Quantitation Limit
AQ FB	aqueous field blank	S/S	soil/sediment
BB	Bottle Blank	S/S (m)	soil/sediment medium level
B/N	base/neutral compound	START	Superfund Technical Assessment and Response Team
°C	degrees Celsius	SVOC	semivolatile organic compound
CC	Continuing Calibration	SW	surface water
CCV	Continuing Calibration Verification	TB	Trip Blank
CLP	Contract Laboratory Program	TCL	Target Compound List
COC	Chain-of-Custody record	TDD	Technical Direction Document
COR	Contracting Officer Representative	TIC	Tentatively Identified Compound
CRQL	Contract Required Quantitation Limit	TR	Traffic Report
CSF	Complete SDG File	VOC	volatile organic compound
%D	percent difference	WESTON	Weston Solutions, Inc.
DAS	Delivery of Analytical Services		
DMC	Deuterated Monitoring Compound		
DQO	Data Quality Objective		
DV	Data Validation		
DW	drinking water		
EB	Equipment Blank		
EPA	Environmental Protection Agency		
GC/ECD	Gas Chromatograph/Electron Capture Detector		
GC/MS	Gas Chromatograph/Mass Spectrometry		
GW	groundwater		
IC	Initial Calibration		
IS	Internal Standard		
kg	kilogram		
L	liter		
LCS	Laboratory Control Sample		
LFB	Laboratory Fortified Blank		
MDL	Method Detection Limit		
µg	microgram		
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		
NA	Not Applicable		
ND	non-detected result		
ng	nanogram		
NERL	New England Regional Laboratory		
OSC	On-Scene Coordinator		
ORDA	Organic Regional Data Assessment		
PAH	polynuclear aromatic hydrocarbon		
PCB	polychlorinated biphenyl compound		
PEST/PCB	pesticide/polychlorinated biphenyl compound		
PE	Performance Evaluation		
Pos	positive result		
QC	Quality Control		
%R	percent recovery		
RPD	Relative Percent Difference		
RRF	Relative Response Factor		
RSD	Relative Standard Deviation		
SDG	Sample Delivery Group		
SOW	Statement of Work		
HRS Reference #85			

SITE: JARD COMPANY INC
CASE: 43395 SDG: A4C22
LABORATORY: CHEMTECH
CONSULTING GROUP

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R = Value is Rejected.
* = Reported value is from diluted analysis.

REGION I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT (ORDA)*

Case No.: Y3395
 SDG No.: A4C22
 Lab Name: Chemtech
 SOW#/Contract#: SOM01.2
 EPA-NE DV Tier Level: Tier II
 TPO/PO: **ACTION FYI

Site Name: Jard Company Inc
 No. of Samples/Matrix: 2/SEU
 Validation Contract: WESTON
 Validator's Name: Mahany
 Date DP Rec'd by EPA-NE:
 DV Completion Date: 7/16/13

ANALYTICAL DATA QUALITY SUMMARY

	VOC	SVOC	PEST	ARO
1. Preservation and Contractual Holding Times:				
2. GC/MS / GC/ECD Instrument Performance Check:				
3. Initial Calibration:				
4. Continuing Calibration:				
5. Blanks:				
6. DMCs or Surrogate Compounds:				
7. Internal Standards:			NA	NA
8. Matrix Spike/Matrix Spike Duplicate:				
9. Sensitivity Check:				
10. PE samples - Accuracy Check:				
11. Target Compound Identification:	NA	NA		
12. Compound Quantitation and Reported QLS:				
13. Tentatively Identified Compounds:			NA	NA
14. Semivolatile Cleanup/Pesticide/PCB Cleanup:	NA			
15. Data Completeness:				
16. Overall Evaluation of Data:				

o = Data had no problems or were qualified due to minor contractual problems.

m = Data were qualified due to major contractual problems.

z = Data were rejected as unusable due to major contractual problems.

Action Items (z items):

Areas of Concern (m items):

Comments:

*This form assesses the analytical data quality in items of contractual compliance only. It does not assess sampling errors and/or non-contractual analytical issues that affect data quality.

** Check "ACTION" only if contractual defects resulted in reduced payment/data rejection recommendations.

Validator: Mahany

Date: 7/18/13

Site Name: Jack Company Inc
TDD No.: 12-10-008
Task No.: 0950

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name: Chematek Consulting GRP

SOW #/Contract #: SOM01.2

Case No.: 43395

Sampling Dates: 4/16/13

SDG No.: A4C22

Shipping Dates: 4/18/13

No. of Samples/Matrix: _____

Date Rec'd by Lab: 4/19/13

Traffic Report Sample Nos: A4C22, C23

Trip Blank No.: _____

Equipment Blank No: _____

Field Duplicate Nos: _____

PE Nos: _____

The Region I, EPA - NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision 12/96 was used to evaluate the data and/or approved modifications to the EPA - NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attached modified criteria from EPA approved QAPJP or amendment to the QAPJP).

A Tier II or a Tier III evaluation was used to validate the data. If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation:

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation and Technical Holding Times
- GC/MS and GC/ECD Instrument Performance Check
- Initial and Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data

J - Numerical value associated with compound is an estimated quantity.

R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.

U - Compound not detected at that numerical sample quantitation limit.

UU - The sample quantitation limit is an estimated quantity.

TB, EB - Compound detected in aqueous trip blank or aqueous equipment blank associated with soil/sediment samples.

Validator's Name: MMW Company Name: WESTON Phone Number: 978-552-2100

Date Validation Started: 7/9/13 Date Validation Completed: 7/10/13

VOA/SV Worksheets:

NA
@
NA
@
NA

①

②

③

④

⑤

⑥

⑦

⑧

⑨

⑩

NA

@

line 1 *

@ - always included
* - See DV Memo

Name: Dr. Mahany

Bill Mahoney

Contacted: Yes ☐ No ☒ Date:

Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

Cooler Temp: 4°C Documented. Page: 6

$$\begin{array}{r} 14 \\ 31 \\ \hline 45 \end{array}$$
[illegible]

1. Cool @ 4°C (\pm 2°C)
2. Preserve with HCl to \leq pH 2.
3. Protect from light.
4. Freeze.
5. Room temperature (avoid excessive heat).
6. Encore sampler (48 hour hold time).

L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

J - Estimate (J) detected values.
UJ - Estimate (UJ) non-detected values.
R - Reject (R) non-detected values.

AQ - Aqueous
S/S - Soil/Sediment
AQ FB - Aqueous Field Blank

* = Re-extraction per request, Hold Time Acceptable.

Date: 7/9/13

PES SCORING EVALUATION REPORT

PES ASX0182

Rev: 1

EPA Sample No.: A4C20

Report Date: 05/13/2013

Page 1 of 1

Lab Name: Chemtech Consulting Group

Contract: EPW11030

SDG No.: A4C19

Lab File ID: PO008786.D

Date Analyzed: 04/25/2013

Decanted: No

Injection Vol. (uL): 1.0

Sulfur Cleanup: No

Case No.: 43395

Matrix: Soil

Date Received: 04/19/2013

Sample Wt./Vol. (g/mL): 30.0 g

Extraction Type: SOXH

GPC Cleanup: No

Dilution Factor: 1.0

Lab Code: CHEM

SAS/Client No.: NA

Lab Sample ID: E1925-02

Date Extracted: 04/23/2013

% Moisture: 0.0

Conc. Extract Vol. (uL): 10000

pH: NA

Units: ug/Kg

Analysis Method: SOM01.2

Scoring Method: SOM01.2

Comments:

[illegible]

PES SCORING EVALUATION REPORT

PES AS1486

Rev: 1 EPA Sample No.: A4C21

Report Date: 05/13/2013

Page 1 of 1

Lab Name: Chemtech Consulting Group

Contract: EPW11030

Case No.: 43395

Lab Code: CHEM

SAS/Client No.: NA

SDG No.: A4C19

Matrix: Soil

Lab Sample ID: E1925-03

Lab File ID. PO008787.D

Date Received: 04/19/2013

Date Extracted: 04/23/2013

Date Analyzed: 04/25/2013

Sample Wt./Vol. (g/mL): 30.0 g

% Moisture: 0.0

Decanted: No

Extraction Type: SOXH

Conc. Extract Vol. (uL): 10000

Injection Vol. (uL): 1.0

GPC Cleanup: No

pH: NA

Sulfur Cleanup: No

Dilution Factor: 1.0

Units. ug/Kg

Analysis Method: SOM01.2

Scoring Method: SOM01.2

Comments:

[illegible]

PES SCORING EVALUATION REPORT

PES ASX0179

Rev: 1 EPA Sample No.: A4C31

Report Date: 05/21/2013

Page 1 of 1

Lab Name: Chemtech Consulting Group

Contract: EPW11030

SDG No.: A4C19

Lab File ID: PO008799.D

Date Analyzed: 04/25/2013

Decanted: No

Injection Vol. (uL): 1.0

Sulfur Cleanup: No

Case No.: 43395

Matrix: Soil

Date Received: 04/19/2013

Sample Wt./Vol. (g/mL): 30.0 g

Extraction Type: SOXH

GPC Cleanup: No

Dilution Factor: 1.0

Lab Code: CHEM

SAS/Client No.: NA

Lab Sample ID: E1925-15

Date Extracted: 04/23/2013

% Moisture: 0.0

Conc. Extract Vol. (uL): 10000

pH: NA

Units: ug/Kg

Analysis Method: SOM01 2

Scoring Method: SOM01.2

Comments:

[illegible]

PES SCORING EVALUATION REPORT

PES AS1431

Rev: 1 EPA Sample No.: A4C32

Report Date: 05/21/2013

Page 1 of 1

Lab Name: Chemtech Consulting Group

Contract: EPW11030

SDG No.: A4C19

Lab File ID: PO008805.D

Date Analyzed: 04/25/2013

Decanted: No

Injection Vol. (uL): 1.0

Sulfur Cleanup: No

Case No.: 43395

Matrix: Soil

Date Received: 04/19/2013

Sample Wt./Vol. (g/mL): 30.0 g

Extraction Type: SOXH

GPC Cleanup: No

Dilution Factor: 1.0

Lab Code: CHEM

SAS/Client No.: NA

Lab Sample ID. E1925-16

Date Extracted: 04/23/2013

% Moisture: 0.0

Conc. Extract Vol. (uL): 10000

pH: NA

Units: ug/Kg

Analysis Method: SOM01.2

Scoring Method: SOM01.2

Comments:

[illegible]

EPA - NE - Data Validation Worksheet
VOA/SV - Pest/PCB - XIII

XIII. SAMPLE QUANTITATION

If no PE, do sample calculation.

Recalculate, from the raw data, the concentration for one positive detect and one reported sample quantitation limit (SQL) for a non-detect in a diluted sample or soil sample per fraction. (Note: Although Section XIII, C 2. a. requires that one calculation for each fraction in each sample be performed, the validator is only required to reproduce an example, for each fraction, of one positive detect and one SQL calculation on this worksheet.)

Fraction		Calculation*	
VOC		Detect:	Non-detect QL:
Sample No.:			
Reported Compound:			
Reported Value:			
Non-detected Compound:			
Reported Quantitation Limit:			
SVOC		Detect:	Non-detect QL:
Sample No.:			
Reported Compound:			
Reported Value:			
Non-detected Compound:			
Reported Quantitation Limit:			
P/PCB		Detect:	Non-detect QL:
Sample No.:	A4C22		
Reported Compound:	NA		
Reported Value:			
Non-detected Compound:	All		
Reported Quantitation Limit:	71 U		$33 \text{ mg/kg} \cdot \frac{50\% - 3\%}{3\% - 30.28\%} = 71 \text{ U}$

* - NA for Tier II if PE score is OK.

Do all soil/sediment samples have % solids greater than 30%? Y N If solids <30%, have sample volumes been increased sufficiently to compensate? Y N

If no, list sample numbers _____

Validator: Mahany

Date: 7/10/13

- 1520 hrs: Surface soil sample P001-SS-08A (Sample #: JCS-501) was collected with a metal scoop at a depth of 0 to 6 inches bgs from residential property P001 at surface soil sample location P001-SS-08, located on the southern bank of the stream, 50 feet east of P001-SS-07, and later submitted for PCB field screening analysis.
- 1530 hrs: Surface soil sample P001-SS-01A (Sample #: JCS-481) was collected with a metal scoop at a depth of 0 to 6 inches bgs from residential property P001 at surface soil sample location P001-SS-01, located directly adjacent to the residence beneath the former location of a recently demolished deck, and later submitted for PCB field screening analysis.
- 1535 hrs: Surface soil sample P001-SS-08B (Sample #: JCS-502) was collected with a hand auger at a depth of 6 to 10 inches bgs from surface soil sample location P001-SS-08 (see above) and later submitted for PCB field screening analysis. No 'C' interval was collected for surface soil sample location P001-SS-08 due to refusal.
- 1540 hrs: Surface soil sample P001-SS-01B (Sample #: JCS-482) was collected with a hand auger at a depth of 6 to 12 inches bgs from surface soil sample location P001-SS-01 (see above) and later submitted for PCB field screening analysis.
- 1550 hrs: Surface soil sample P001-SS-01C (Sample #: JCS-483) was collected with a hand auger at a depth of 12 to 24 inches bgs from surface soil sample location P001-SS-01 (see above) and later submitted for PCB field screening analysis.
- 1600 hrs: START Team Members reviewed and turned in completed surface soil data sheets for each sample location.
Sample aliquots for PCB field screening, collected to date, were transferred to EPA chemist Clifford for processing and PCB field screening analyses.
- 1630 hrs: START personnel secured IDW drums, secured the site and departed the Jard property.

16 April 2013 (Tuesday) – Sediment Sampling

Weather: Partly cloudy, 51-59°F

- 0730 hrs: START members Kelly, Hornok, Bitzas, Dupree, Robinson, Saylor, Christine Scesny, and Sharp arrived at the Jard property.
- 0745 hrs: START HSC Kelly reviewed the site HASP and conducted a tailgate health and safety meeting for all on-site START personnel, including reviews of the physical hazards (uneven terrain; trips-slips-falls, working near water, heavy lifting, traffic concerns, potential adverse weather conditions), chemical hazards (PCBs), Radiation (Not encountered previously but will be monitored) and biological hazards (ticks, poison ivy, thorn bushes, snakes, dogs, animals). Personnel reviewed and signed the HASP documentation, as needed. START members completed calibration checks on air monitoring instrument; MultiRAE Plus, LEL, O₂, H₂S, CO, and PID meter. Background ambient readings: LEL = 0%; O₂ = 20.9%; H₂S = 0 ppm; CO = 0 ppm; and VOC = 0 ppm.
START Team established decontamination area and conduct decontamination of non-sample SD-50A (Sample #: JCS-556) was collected using a metal scoop at a depth of 0 to 6 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 0850 hrs: Sediment sample SD-50B (Sample #: JCS-557) was collected using a hand auger at a depth of 6 to 12 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 0855 hrs: Sediment sample SD-50C (Sample #: JCS-558) was collected using a hand auger at a depth of 12 dedicated equipment. Non-dedicated equipment (augers, metal scoops, etc.) will be

- decontaminated after the collection of each sample, and prior to use for the collection of other samples.
- 0830 hrs: START members Bitzas and Hornok began documenting previously mapped/delineated wetland area located west of Park Street. In addition, START members Kelly and Sharp began marking sediment sample locations, first in the background wetland located north of the Jard property and then in the area west of Park Street. Additional START personnel mobilized to the background wetland located north of the Jard property to begin sampling.
- 0845 hrs: Sediment to 24 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 0930 hrs: Sediment sample SD-51A (Sample #: JCS-559) was collected using a metal scoop at a depth of 0 to 6 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 0940 hrs: Sediment sample SD-51B (Sample #: JCS-560) was collected using a hand auger at a depth of 6 to 12 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 0945 hrs: Sediment sample SD-51C (Sample #: JCS-561) was collected using a hand auger at a depth of 12 to 24 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 0950 hrs: Sediment sample SD-52A (Sample #: JCS-562) was collected using a metal scoop at a depth of 0 to 6 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 0955 hrs: Sediment sample SD-52B (Sample #: JCS-563) was collected using a hand auger at a depth of 6 to 12 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1000 hrs: Sediment sample SD-52C (MS/MSD) (Sample #: JCS-564) was collected using a hand auger at a depth of 12 to 24 inches bgs from a background wetland (PEM) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1020 hrs: Sediment sample SD-53A (Sample #: JCS-565) was collected using a metal scoop at a depth of 0 to 6 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1025 hrs: Sediment sample SD-53B (Sample #: JCS-566) was collected using a hand auger at a depth of 6 to 12 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1030 hrs: Sediment sample SD-53C (Sample #: JCS-567) was collected using a hand auger at a depth of 12 to 24 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1100 hrs: Sediment sample SD-54A (Sample #: JCS-568) was collected using a metal scoop at a depth 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1735 hrs: Sediment sample SD-18B (Sample #: JCS-509) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1800 hrs: START Team Members reviewed and turned in completed sediment sample data sheets for each sample location. Note that samples were generally collected in sequence from downstream to upstream locations. However, due to the limited water flow and direct flow path between sample locations, there does not appear to be any potential cross-contamination influence as a of 0 to 6 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.

- 1105 hrs: Sediment sample SD-54B (Sample #: JCS-569) was collected using a hand auger at a depth of 6 to 12 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1110 hrs: Sediment sample SD-54C (Sample #: JCS-570) was collected using a hand auger at a depth of 12 to 24 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1125 hrs: Sediment sample SD-55A (Sample #: JCS-571) was collected using a metal scoop at a depth of 0 to 6 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1130 hrs: Sediment sample SD-55B (Sample #: JCS-572) was collected using a hand auger at a depth of 6 to 12 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1135 hrs: Sediment sample SD-55C (Sample #: JCS-573) was collected using a hand auger at a depth of 12 to 24 inches bgs from a background wetland (PSS) area located north of the Jard property and later submitted for PCB field screening analysis.
- 1315 hrs: Sediment sample SD-48A (Sample #: JCS-553) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from an area directly adjacent to the unnamed stream located west of the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis. Note that samples are being collected from downstream to upstream locations. However, due to the limited water and flow, there does not appear to be any potential cross-contamination influence as a result of stirring up the sediment at adjacent sampling locations.
- 1320 hrs: Sediment sample SD-48B (Sample #: JCS-554) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from an area directly adjacent to the unnamed stream located west of the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis.
In addition, sediment sample SD-49A (Sample #: JCS-555) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the unnamed stream located west of the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis.
- 1325 hrs: Sediment sample SD-47A (Sample #: JCS-551) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the unnamed stream located west of the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis.
- 1330 hrs: Sediment sample SD-46A (Sample #: JCS-550) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the unnamed stream located west of the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis.
- 1335 hrs: Sediment sample SD-45A (Sample #: JCS-549) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the unnamed stream located west of the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis.
In addition, sediment sample SD-47B (Sample #: JCS-552) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the unnamed stream located west of the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis.
- 1340 hrs: Sediment sample SD-43A (Sample #: JCS-547) was collected using a metal scoop at a depth of 0 to 6 inches below the sediment-water interface from the unnamed stream located west of

the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis.

In addition, sediment sample SD-44A (Sample #: JCS-548) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the unnamed stream located west of the Jard property and which drains the wetland area on property P030. The sample was later submitted for PCB field screening analysis.

1344 hrs: Sediment sample SD-42A (Sample #: JCS-545) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

1349 hrs: Sediment sample SD-42B (Sample #: JCS-546) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

1350 hrs: Sediment sample SD-41A (Sample #: JCS-544) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

1355 hrs: Sediment sample SD-40A (Sample #: JCS-543) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

1405 hrs: Sediment sample SD-39A (Sample #: JCS-542) was collected using a hand auger at a depth of 0 to 8 inches below the sediment-water interface from the stream that runs behind property P041 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1445 hrs: Sediment sample SD-38A (Sample #: JCS-541) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the stream that runs through residential property P005 located west of the Jard property on Park Street. The sample was later submitted for PCB field screening analysis.

1448 hrs: Sediment sample SD-36A (Sample #: JCS-538) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the stream that runs through residential property P006 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1450 hrs: Sediment sample SD-37A (Sample #: JCS-540) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the stream that runs through residential property P005 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1452 hrs: Sediment sample SD-36B (Sample #: JCS-539) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the stream that runs through residential property P006 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1455 hrs: Sediment sample SD-35A (Sample #: JCS-537) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the stream that runs through property P032 and Duck Pond located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis. Weather conditions change from light to heavy rain.

1500 hrs: Sediment sample SD-34A (Sample #: JCS-536) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the stream that runs through property

P032 and Duck Pond located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1505 hrs: Sediment sample SD-32A (Sample #: JCS-534) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the pond that exists on residential property P011 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

In addition, sediment sample SD-33A (Sample #: JCS-535) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the stream that runs through property P031 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1510 hrs: Sediment sample SD-31A (Sample #: JCS-532) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the pond that exists on residential property P011 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1513 hrs: Sediment sample SD-31B (Sample #: JCS-533) was collected using a hand auger at a depth of 12 to 18 inches below the sediment-water interface from the pond that exists on residential property P011 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1515 hrs: Sediment sample SD-30A (Sample #: JCS-530) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the pond that exists on residential property P011 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1520 hrs: Sediment sample SD-30B (Sample #: JCS-531) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the pond that exists on residential property P011 located west of the Jard property along Park Street. The sample was later submitted for PCB field screening analysis.

1540 hrs: Sediment sample SD-19A (Sample #: JCS-510) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

In addition, sediment sample SD-20A (Sample #: JCS-512) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

1542 hrs: Sediment sample SD-19B (Sample #: JCS-511) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

1545 hrs: Sediment sample SD-20B (Sample #: JCS-513) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

In addition, sediment sample SD-25A (Sample #: JCS-520) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

1550 hrs: Sediment sample SD-25B (Sample #: JCS-521) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the

- Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1555 hrs: Sediment sample SD-26A (Sample #: JCS-522) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1600 hrs: Sediment sample SD-26B (Sample #: JCS-523) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1630 hrs: Equipment rinsate blank sample RB-30 (Sample #: JCW-028; CLP #: A4B54) was collected from hand auger sampling equipment (augers, scoops, etc.) associated with sediment sampling activities.
- 1650 hrs: Sediment sample SD-22A (Sample #: JCS-515) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1700 hrs: Sediment sample SD-21A (Sample #: JCS-514) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1703 hrs: Sediment sample SD-23A (Sample #: JCS-516) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1705 hrs: Sediment sample SD-23B (Sample #: JCS-517) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- In addition, sediment sample SD-28A (Sample #: JCS-526) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1706 hrs: Sediment sample SD-24A (Sample #: JCS-518) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- 1710 hrs: Sediment sample SD-24B (Sample #: JCS-519) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- In addition, sediment sample SD-28B (Sample #: JCS-527) was collected using a hand auger at a depth of 12 to 24 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.
- Also, sediment sample SD-29A (Sample #: JCS-528) was collected using a hand auger at a depth of 0 to 12 inches below the sediment-water interface from the wetland area located west of the Jard property on property P030. The sample was later submitted for PCB field screening analysis.

DE/ESAT

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2

Jard Company
Weston

LABORATORY NAME :	CHEMTECH CONSULTING GROUP, INC.		
CITY / STATE :	MOUNTAINSIDE, NJ		
CASE NO :	43395	SDG NO :	A4C22
SDG NOS TO FOLLOW	N/A	N/A	N/A
MOD. REF. NO. :	N/A		
CONTRACT NO :	EPW11030		
SOW NO :	SOM 01.2		

JUN 17 2013

All documents delivered in the Complete SDG File (CSF) must be original documents where possible.

	PAGE NOS:		CHECK	
	FROM	TO	LAB	USEPA
1. Inventory Sheet (DC-2) (Do not number)				
2. SDG Narrative	1	4	✓	✓
3. SDG Cover Sheet/Traffic Report	5	6	✓	✓
4. <u>Trace Volatiles Data</u>				
a. <u>QC Summary</u>				
Deuterated Monitoring Compound Recovery (Form II VOA-1 and VOA-2)	NA	NA	✓	✓
Matrix Spike/Matrix Spike Duplicate Recover (Form III VOA) (if requested by USEPA Region)	NA	NA	✓	✓
Method Blank Summary (Form IV VOA)	NA	NA	✓	✓
GC/MS Instrument Performance Check (Form V VOA)	NA	NA	✓	✓
Internal Standard Area and RT Summary (Form VIII VOA)	NA	NA	✓	✓
b. <u>Sample Data</u>	NA	NA	✓	✓
TCL Results - Organics Analysis Data Sheet (Form I VOA-1 and VOA-2)			✓	✓
Tentatively Identified Compounds (Form I VOA-TIC)			✓	✓
Reconstructed total ion chromatograms (RIC) for each sample			✓	✓
For each sample:				
Raw Spectra and background-subtracted mass spectra of target compounds identified			✓	✓
Quantitation reports			✓	✓
Mass Spectra of all reported TICs with three best library matches			✓	✓
c. <u>Standards Data (All Instruments)</u>	NA	NA		
Initial Calibration Data (Form VI VOA-1, VOA-2, VOA-3)			✓	✓
RICs and Quantitation Reports for all Standards			✓	✓
Continuing Calibration Data (Form VII VOA-1, VOA-2, VOA-3)			✓	✓
RICs and Quantitation Reports for all Standards			✓	✓
d. <u>Raw/Quality Control</u>				
BFB	NA	NA	✓	✓
Blank Data	NA	NA	✓	✓
Matrix Spike/Matrix Spike Duplicate Data (if requested by USEPA Region)	NA	NA	✓	✓

Evidence Audit Photocopy

**ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2**

CASE NO : 43395	SDG NO : A4C22	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

e. Trace SIM Data (Place at the end of the Trace Volatiles Section

[Form I VOA-SIM; Form II VOA-SIM1 and VOA-SIM2; Form IV-VOA-SIM; Form VI VOA-SIM; Form VII VOA-SIM; Form VIII VOA-SIM; and all raw data for QC, Samples, and Standards.]

NA	NA	/	/
		/	/

5. Low/Med Volatiles Data

a. QC Summary

Deuterated Monitoring Compound Recovery (Form II VOA-1, VOA-2, VOA-3, VOA-4)

NA	NA	/	/
		/	/

Matrix Spike/Matrix Spike Duplicate Recovery (Form III VOA-1 and VOA-2) (if requested by USEPA Region)

NA	NA	/	/
		/	/

Method Blank Summary (Form IV VOA)

NA	NA	/	/
		/	/

GC/MS Instrument Performance Check (Form V VOA)

NA	NA	/	/
		/	/

Internal Standard Area and RT Summary (Form VIII VOA)

NA	NA	/	/
		/	/

b. Sample Data

TCL Results - Organics Analysis Data Sheet (Form I VOA-1 and VOA-2)

NA	NA	/	/
		/	/

Tentatively Identified Compounds (Form I VOA-TIC)

NA	NA	/	/
		/	/

Reconstructed total ion chromatograms (RIC) for each sample

NA	NA	/	/
		/	/

For each sample:

Raw Spectra and background-subtracted mass spectra of target compounds identified

NA	NA	/	/
		/	/

Quantitation reports

NA	NA	/	/
		/	/

Mass Spectra of all reported TICs with three best library matches

NA	NA	/	/
		/	/

c. Standards Data (All Instruments)

NA	NA	/	/
		/	/

Initial Calibration Data (Form VI VOA-1, VOA-2, VOA-3)

NA	NA	/	/
		/	/

RICs and Quantitation Reports for all Standards

NA	NA	/	/
		/	/

Continuing Calibration Data (Form VII VOA-1, VOA-2, VOA-3)

NA	NA	/	/
		/	/

RICs and Quantitation Reports for all Standards

NA	NA	/	/
		/	/

d. Raw/Quality Control (QC) Data

BFB

NA	NA	/	/
		/	/

Blank Data

NA	NA	/	/
		/	/

Matrix Spike/Matrix Spike Duplicate Data (if requested by USEPA Region)

NA	NA	/	/
		/	/

Evidence Audit Photocopy

**ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2**

CASE NO : 43395	SDG NO : A4C22	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

6. Semivolatiles Data

a. QC Summary

Deuterated Monitoring Compound Recovery (Form II SV-1, SV-2, SV-3, SV-4)	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Matrix Spike/Matrix Spike Duplicate Recovery Summary (Form III SV-1 and SV-2) (if requested by USEPA Region)	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Method Blank Summary (Form IV SV)	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
GC/MS Instrument Performance Check (Form V SV)	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Internal Standard Area and RT Summary (Form VIII SV-1 and SV-2)	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

b. Sample Data

TCL Results - Organics Analysis Data Sheet (Form I SV-1 and SV-2)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tentatively Identified Compounds (Form I SV-TIC)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Reconstructed total ion chromatograms (RIC) for each sample			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
For each sample:	NA	NA		
Raw Spectra and background-subtracted mass spectra of target compounds			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Quantitation reports			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mass Spectra of TICs with three best library matches			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
GPC chromatograms (if GPC is r			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

c. Standards Data (All Instruments)

Initial Calibration Data (Form VI SV-1, SV-2, SV-3)	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
RICs and Quantitation			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Continuing Calibration Data (Form VII SV-1, S			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
RICs and Quantitation Reports for all Standards			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

d. Raw (QC)Data

DFTPP	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Blank Data	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MS/MSD Data (if requested by USEPA Region)	NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

e. Raw GPC Data

NA	NA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Evidence Audit Photocopy

**ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2**

CASE NO : 43395	SDG NO : A4C22	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

Semivolatile SIM Data

NA NA ☒ ☒

[Form I SV-SIM; Form II SV-SIM1 and SV-SIM2; Form III-SV-SIM1 and SV-SIM2 (if required; Form IV SV-SIM; Form VI SV-SIM; Form VII SV-SIM; Form VIII SV-SIM1 and SV-SIM2; and all raw data for QC, Samples, and Standards.]

7. Pesticides Data

a. QC Summary

Surrogate Recovery Summary (Form II PEST-1 and PEST-2)

NA NA ☒ ☒

Matrix Spike/Matrix Spike Duplicate Recovery Summary
(Form III PEST-1 and PEST-2)

NA NA ☒ ☒

Laboratory Control Sample Recovery (Form III PEST-3 and PEST-4)

NA NA ☒ ☒

Method Blank Summary (Form IV PEST)

NA NA ☒ ☒

b. Sample Data

NA NA

TCL Results - Organics Analysis Data Sheet (Form I PEST)

☒ ☒

Chromatograms (Primary Column)

☒ ☒

Chromatograms from second GC column confirmation

☒ ☒

GC Integration report or data system printout

☒ ☒

Manual work sheets

☒ ☒

For Pesticides by GC/MS

☒ ☒

Copies of raw spectra and copies of background-subtracted mass spectra of target compounds (samples & standards)

☒ ☒

c. Standards Data

NA NA

Initial Calibration of Single Component Analytes (Form VI PEST-1 and PEST-2)

☒ ☒

Toxaphene Initial Calibration (Form VI PEST-3 and PEST-4)

☒ ☒

Analyte Resolution Summary (Form VI PEST-5, per column)

☒ ☒

Performance Evaluation Mixture (Form VI PEST-6)

☒ ☒

Individual Standard Mixture A (Form VI PEST-7)

☒ ☒

Individual Standard Mixture B (Form VI PEST-8)

☒ ☒

Individual Standard Mixture C (Form VI PEST-9 and PEST-10)

☒ ☒

Calibration Verification Summary (Form VII PEST-1)

☒ ☒

Calibration Verification Summary (Form VII PEST-2)

☒ ☒

Evidence Audit Photocopy

**ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2**

CASE NO : 43395	SDG NO : A4C22	SDG NOs TO FOLLOW : <u>N/A</u>
N/A	N/A	MOD REF. NO : <u>N/A</u>

Calibration Verification Summary (Form VII PEST-3)	✓	✓
Calibration Verification Summary (Form VII PEST-4)	✓	✓
Analytical Sequence (Form VIII PEST)	✓	✓
Florisil Cartridge Check (Form IX PEST-1)	✓	✓
Pesticide GPC Calibration (Form IX PEST-2)	✓	✓
Identification Summary for Single Component Analytes (Form X PEST-1)	✓	✓
Identification Summary for Toxaphene Form X PEST-2)	✓	✓
Chromatograms and data system printouts		
A printout of Retention Times and corresponding peak areas or peak heights	✓	✓

d. Raw QC Data

Blank Data	NA	NA	✓	✓
Matrix Spike/Matrix Spike Duplicate Data	NA	NA	✓	✓
Laboratory Control Sample	NA	NA	✓	✓

e. Raw GPC Data

NA	NA	✓	✓
----	----	---	---

f. Raw Florisil Data

NA	NA	✓	✓
----	----	---	---

8. Aroclor Data

a. QC Summary

Surrogate Recovery Summary (Form II ARO-1 and ARO-2)	7	7	✓	✓
Matrix Spike/Matrix Spike Duplicate Summary (Form III ARO-1 and ARO-2)	8	9	✓	✓
Laboratory Control Sample Recovery (Form III ARO-3 and ARO-4)	10	10	✓	✓
Method Blank Summary (Form IV ARO)	11	11	✓	✓

b. Sample Data

TCL Results - Organics Analysis Data Sheet (Form I ARO)	NA	NA	✓	✓
Chromatograms (Primary Column)	NA	NA	✓	✓
Chromatograms from second GC column confirmation	NA	NA	✓	✓
GC Integration report of data system printout	NA	NA	✓	✓
Manual work sheets	NA	NA	✓	✓
For Aroclors by GC/MS	NA	NA	✓	✓

Evidence Audit Photocopy

**ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2**

CASE NO : 43395	SDG NO : A4C22	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

Copies of raw spectra and copies of background-subtracted mass spectra of target compounds (samples & standards)

c. Standards Data

18

60

- Aroclors Initial Calibration (Form VI ARO-1, ARO-2, and ARO-3) ✓
- Calibration Verification Summary (Form VII ARO-1) ✓
- Analytical Sequence (Form VIII ARO) ✓
- Identification Summary for Multicomponent Analytes (Form X ARO) ✓
- Chromatograms and data system printouts ✓
- A printout of Retention Times and corresponding peak areas or peak heights ✓

d. Raw QC Data

61

77

- Blank Data ✓
- Matrix Spike/Matrix Spike Duplicate Data ✓
- Laboratory Control Sample (LCS) Data ✓

78

85

86

89

NA

NA

e. Raw GPC Data (if performed)

9. Miscellaneous Data

- Original preparation and analysis forms or copies of preparation and analysis logbook pages ✓
- Internal sample and sample extract transfer chain-of-custody records ✓
- Screening records ✓
- All instrument output, including strip charts from screening activities (describe or list)

90

118

123

123

NA

NA

10. EPA Shipping/Receiving Documents

- Airbills (No. of shipments 1) ✓
- Chain of Custody Records ✓
- Sample Tags ✓
- Sample Log-in Sheet (Lab & DC-1) ✓
- Miscellaneous Shipping/Receiving Records (describe or list)

119

119

120

120

121

122

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**ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET
FORM DC-2**

CASE NO : 43395	SDG NO : A4C22	SDG NOs TO FOLLOW : N/A
N/A	N/A	MOD. REF. NO : N/A

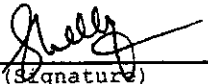
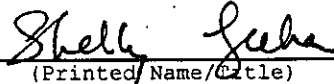
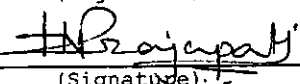
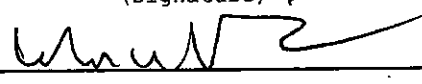
11. Internal Lab Sample Transfer Records and Tracking Sheets (describe or list)

Sample Transfer	123	123	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

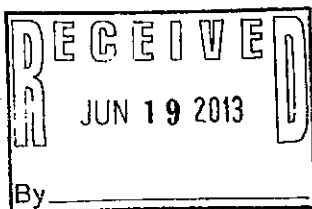
12. Other Records (describe or list)

Telephone Communication Log	124	143	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

13. Comments

Completed by: (CLP Lab)	 (Signature)	 (Printed Name/Title)	06/14/13 (Date)
Verified by: (CLP Lab)	 (Signature)	Himanshu Prajapati (Printed Name/Title)	06/14/13 (Date)
Audited by: (USEPA) <i>Weston</i>	 (Signature)	William W. Mahony, Prin. Proj. Scientist (Printed Name/Title)	6/26/13 (Date)

Evidence Audit Photocopy



COPY

EPA NEW ENGLAND
COMPLETE SDG FILE
RECEIPT / TRANSFER FORM

Site: Jard Company Inc.

TOD: 09@12-10-0008

TASK: 0850

Case: 43395

SDG: A4C22

Receipt Date	Received By : Name	Init.	Affiliation	CSF Activity	Custody Seals Present / Intact		Released To	Date
06/17/13	Doris Guzman	DG	ESAT	Received for Transfer	Y N	Y N	Weston	06/17-1-13
6/19/13	Bill Mahony	(B)	Weston	Storage & Validation	(Y) N	(Y) N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		
					Y N	Y N		

EPA-NE - DQO SUMMARY FORM

A separate Form should be completed for each sampling event. Refer to Attachment A for instructions on completing this form, Attachment B for a complete list of the parameter codes and Attachment C for an example of a completed form.

<p>1. EPA Program: TSCA <u>CERCLA</u> RCRA DW NPDES CAA Other: _____ Projected Date(s) of Sampling <u>Spring (April/May) 2013</u> EPA Site Manager <u>Martha Bosworth</u> EPA Case Team Members _____ _____</p>	<p>Site Name <u>Jard Company Inc</u> Site Location <u>Bennington, Vermont</u> Assigned Site Latitude/Longitude <u>42° 53' 21.5" north/73° 11' 21.9" west</u> CERCLA Site/Spill Identifier No <u>VID048141741</u> (Include Operable Unit) Phase: ERA <u>SA/SI</u> pre-RI RI (phase I, etc.) FS RD RA post-RA (circle one) Other: <u>Site Reassessment</u></p>								
<p>2. QAPP Title and Revision Date <u>Site Assessment Program Site Specific Quality Assurance Project Plan for Surface and Subsurface Soil/Source, Ground Water, and Sediment Sampling Jard Company Inc, Bennington, Vermont dated 11 January 2013</u> Approved by: <u>Martha Bosworth</u> Date of Approval: <u>TBD</u> Title of Approving Official: <u>Site Assessment Manager</u> Organization*: <u>EPA</u> *If other than EPA, record date approval authority was delegated: _____</p> <p>EPA Oversight Project (circle one) <u>Y</u> <u>N</u> Type of EPA Oversight (circle one) PRP or FF Other: _____ Confirmatory Analysis for Field Screening <u>Y</u> <u>N</u> If EPA Oversight or Confirmatory: % splits <u>TBD</u> Are comparability criteria documented? <u>Y</u> <u>N</u></p>									
<p>3. a.</p>	<p>Matrix Code¹</p>	SO	SO	SO	GW	GW	SD	SD	SD
<p>b.</p>	<p>Parameter Code²</p>	PCB Aroclors	PCB Aroclors	PCB Congeners	PCB Aroclors	PCB Congeners	PCB Aroclors	PCB Aroclors	PCB Congeners
<p>c.</p>	<p>Preservation Code³</p>	5	5	5	5	5	5	5	5
<p>d.</p>	<p>Analytical Services Mechanism</p>	DAS or CLP	DAS or CLP	CLP	DAS or CLP	DAS or CLP	DAS or CLP	DAS or CLP	CLP
<p>e.</p>	<p>No. of Sample Locations</p>	65	28	2	21	2	60	60	60
<p>f.</p>	<p>Field QC:</p>								
<p>g.</p>	<p>Field Duplicate Pairs</p>	4	2		2	5	5	5	5
<p>h.</p>	<p>Equipment Blanks</p>	See RB	See RB	See RB	See RB	See RB	See RB	See RB	See RB
<p>i.</p>	<p>VOA Trip Blanks</p>	0	0	0	0	0	0	0	0
<p>j.</p>	<p>Cooler Temperature Blanks</p>	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler	1 per cooler
<p>k.</p>	<p>Bottle Blanks</p>	0	0	0	0	0	0	0	0
<p>l.</p>	<p>Other: _____</p>								
<p>m.</p>	<p>PES sent to Laboratory</p>	NA	6	TBD	3	TBD	NA	3	TBD
<p>n.</p>	<p>Laboratory QC:</p>								
<p>o.</p>	<p>Reagent Blank</p>	0	0	0	0	0	0	0	0
<p>p.</p>	<p>Duplicate</p>	0	0	0	0	0	0	0	0
<p>q.</p>	<p>Matrix Spike</p>	0	2	0	1	0	1	0	0
<p>r.</p>	<p>Matrix Spike Duplicate</p>	0	2	0	1	0	1	0	0
<p>s.</p>	<p>Other: _____</p>								

4. Site Information
 Site Dimensions Approximately 11.26 acres
 List all potentially contaminated matrices Surface and subsurface soil, sediment, ground water, and residential surface soil
 Range of Depth to Groundwater greater than 5 feet
 Soil Types: Surface Subsurface Other: _____
 Sediment Types: Stream Pond Estuary Wetland Other: _____ Expected Soil/Sediment Moisture Content: High Low

1. EPA Program: TSCA <u>CERCLA</u> RCRA DW NPDES CAA Other: _____ Projected Date(s) of Sampling <u>Spring (April/May) 2013</u> EPA Site Manager <u>Martha Bosworth</u> EPA Case Team Members _____ _____ _____	Site Name <u>Jard Company Inc</u> Site Location <u>Bennington, Vermont</u> Assigned Site Latitude/Longitude <u>42° 53' 21.5" north/73° 11' 21.9" west</u> CERCLA Site/Spill Identifier No <u>VT048141741</u> (Include Operable Unit) Phase: ERA SA/SI pre-RI RI (phase I, etc.) FS RD RA post-RA (circle one) <u>Other: Site Reassessment</u>								
2. QAPP Title and Revision Date <u>Site Assessment Program Site Specific Quality Assurance Project Plan for Surface and Subsurface Soil/Source, Ground Water, and Sediment Sampling Jard Company Inc, Bennington, Vermont dated 11 January 2013</u> Approved by: <u>Martha Bosworth</u> Date of Approval: <u>TBD</u> Title of Approving Official: <u>Site Assessment Manager</u> Organization*: <u>EPA</u> *If other than EPA, record date approval authority was delegated: _____ EPA Oversight Project (circle one) <u>Y</u> <u>N</u> Type of EPA Oversight (circle one) PRP or FF Other: _____ Confirmatory Analysis for Field Screening <u>Y</u> <u>N</u> If EPA Oversight or Confirmatory: % splits <u>TBD</u> Are comparability criteria documented? <u>Y</u> <u>N</u>									
3. a.	Matrix Code ¹	SS	SS	SS	RB				
b.	Parameter Code ²	PCB Aroclors	PCB Aroclors	PCB Congeners	PCB Aroclors				
c.	Preservation Code ³	5	5	5	5				
d.	Analytical Services Mechanism	DAS or CLP	DAS or CLP	CLP	CLP Non- RAS				
e.	No. of Sample Locations	125	38	2	21				
f.	Field QC:								
g.	Field Duplicate Pairs	7	2		0				
h.	Equipment Blanks	See RB	See RB	See RB	0				
i.	VOA Trip Blanks	0	0	0	0				
j.	Cooler Temperature Blanks	1 per cooler	1 per cooler	1 per cooler	1 per cooler				
k.	Bottle Blanks	0	0	0	0				
l.	Other: _____								
m.	PES sent to Laboratory	NA	6	TBD	0				
n.	Laboratory QC:								
o.	Reagent Blank	0	0	0	0				
p.	Duplicate	0	0	0	0				
q.	Matrix Spike	0	2	0	0				
r.	Matrix Spike Duplicate	0	2	0					
s.	Other: _____								
4. Site Information Site Dimensions <u>Approximately 11.26 acres</u> List all potentially contaminated matrices <u>Surface and subsurface soil, sediment, ground water, and residential surface soil</u> Range of Depth to Groundwater <u>greater than 5 feet</u> Soil Types: Surface <u>Subsurface</u> Other: _____ Sediment Types: Stream Pond Estuary Wetland Other: _____ Expected Soil/Sediment Moisture Content: <u>High</u> <u>Low</u>									

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix.

Matrix Code¹ SO

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
 Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
 Engineering Design Remedial Action
 Post-Remedial Action (quarterly monitoring) Other: _____

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect surface and subsurface soil/source samples from the identified source area (capped former building footprint and excavated staged material) on the property for PCB Aroclors field screening and fixed based laboratory analysis in source areas on the Jard Company Inc property. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congeners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
 Positive Displacement Pump Faucet or Spigot Other:
 Split Spoon Dredge Trowel Other: Direct sampling
 Sampling Procedures (SOP name, No., Rev. #, and date) _____
 List Background Sample Locations NA for source samples
 Circle: Grab or Composite _____
 "Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O₂ Temperature Turbidity
 Other: _____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	EIA-FLDPCB2.SOP		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
PCB Congeners	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
 2. Other Approved Validation Criteria: _____
 Validation Tier (circle one) I II III Partial Tier III: _____
 Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
 Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
 Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix.

Matrix Code¹ GW

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
 Nature and Extent of Contamination • Human and/or Ecological Risk Assessment Remediation Alternatives
 Engineering Design Remedial Action
 Post-Remedial Action (quarterly monitoring) Other: _____

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect ground water samples from ground water monitoring wells previously installed on and off the property for PCB Aroclors fixed based laboratory analysis. A subset of samples will be submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	1.0 µg/L
PCB Congeners	Above Background (Assumed to be ND)	100 to 1,000 pg/L

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
Positive Displacement Pump Faucet or Spigot Other: _____
Split Spoon Dredge Trowel Other: _____
- Sampling Procedures (SOP name, No., Rev. #, and date) _____
 List Background Sample Locations Ground Water monitoring wells TBD
 Circle: Grab or Composite _____
 "Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O₂ Temperature Turbidity
 Other: _____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
PCB Congeners	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
 2. Other Approved Validation Criteria: _____
 Validation Tier (circle one) I II III Partial Tier III: _____
 Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
 Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
 Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix. Matrix Code¹ SD

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
 Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
 Engineering Design Remedial Action
 Post-Remedial Action (quarterly monitoring) Other: _____

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect sediment samples from a wetland located west of Park Street for PCB Aroclors field screening and fixed based laboratory analysis. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis

 Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congeners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
 Positive Displacement Pump Faucet or Spigot Other:
 Split Spoon Dredge Trowel Other: Direct sampling

Sampling Procedures (SOP name, No., Rev. #, and date) _____
 List Background Sample Locations Wetland area northeast of the Jard Company Inc property
 Circle: Grab or Composite _____
 "Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O₂ Temperature Turbidity
 Other: _____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	SOM01.2		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
Total Metals (including Hg)	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
 2. Other Approved Validation Criteria: _____
 Validation Tier (circle one) I II III Partial Tier III: _____
 Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
 Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
 Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

When multiple matrices will be sampled during a sampling event, complete Sections 5-10 for each matrix.

Matrix Code¹ SS

5. Data Use (circle all that apply) Site Investigation/Assessment PRP Determination Removal Actions
 Nature and Extent of Contamination Human and/or Ecological Risk Assessment Remediation Alternatives
 Engineering Design Remedial Action
 Post-Remedial Action (quarterly monitoring) Other: _____

Draft DQO Summary Form 11/96

6. Summarize DQOs: Collect surface soil samples from residential properties downgradient of the Jard Company Inc property and within 200 feet of the residences for PCB Aroclors field screening and fixed based laboratory analysis in source areas on the Jard Company Inc property. A subset of samples will be submitted for fixed laboratory analysis with a smaller subset submitted for PCB Congener analysis.

Complete Table if applicable

COCs	Action Levels	Analytical Method-Quantitation Limits
PCB Aroclors (Field Screening)	Above Background (Assumed to be ND)	0.2 mg/Kg
PCB Aroclors (Fixed Lab)	Above Background (Assumed to be ND)	33 ug/kg
PCB Congeners	Above Background (Assumed to be ND)	20 to 100 ng/Kg

7. Sampling Method (circle technique) Bailer Low flow pump (Region I method: Yes No) Peristaltic Pump
 Positive Displacement Pump Faucet or Spigot Other:
 Split Spoon Dredge Trowel Other: Direct sampling
- Sampling Procedures (SOP name, No., Rev. #, and date) _____
 List Background Sample Locations Residential properties located north of the Jard Company Inc property
 Circle: Grab or Composite Yes No
 "Hot spots" sampled: Yes No

8. Field Data (circle) ORP pH Specific Conductance Dissolved O₂ Temperature Turbidity
 Other: _____

9. Analytical Methods and Parameters

Method title/SOP name	Method/SOP Identification number	Revision Date	Target Parameters (VOA, SV, Pest/PCB, Metals, etc.)
PCB Aroclors (Field Screening)	SOM01.2		PCBs
PCB Aroclors	SOM01.2 or DAS Equivalent		PCBs
Total Metals (including Hg)	CBC01.0		PCB Congeners

10. Validation Criteria (circle one) 1. Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, Part II, III or IV
 2. Other Approved Validation Criteria: _____
 Validation Tier (circle one) I II III Partial Tier III: _____
 Company/Organization Performing Data Validation Weston Solutions, Inc./START III Prime or Subcontractor (circle one)

11. Company Name Weston Solutions, Inc. Contract Number EP-W-05-042
 Contract Name (e.g. START, RACS, etc.) START III Work Assignment No. 20114-081-998-0850
 Person Completing Form/Title G. Hornok/Lead Project Scientist Date of DQO Summary Form Completion 11 January 2013

Matrix Codes¹ - Refer to Attachment B, Part I
 Parameter Codes² - Refer to Attachment B, Part II

Preservation Codes³

- | | |
|-----------------------------------|--|
| 1. HCl to pH ≤ 2 | 7. K ₂ Cr ₂ O ₇ |
| 2. HNO ₃ | 8. Freeze |
| 3. NaHSO ₄ | 9. Room Temperature (avoid excessive heat) |
| 4. H ₂ SO ₄ | 10. Other (Specify) |
| 5. Cool @ 4°C (± 2°) | N. Not preserved |
| 6. NaOH | |

* - To supplement Matrix Codes and/or Parameter Codes contact the QA Unit



Attachment C

Original Analytical Results (Form I's)
Case No. 43395; SDG No. A4C22

1H - FORM I ARO
AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4C22

Lab Name: Chemtech Contract: USEPA CLP Organics
Lab Code: CHEM Case No.: 43395 Mod. Ref No.: E2426 SDG No.: A4C22
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E2426-01
Sample wt/vol: 50.0 (g/mL) g Lab File ID: PB005848.D
% Moisture: 72.0 Decanted: (Y/N) N Date Received: 04/19/2013
Extraction: (Type) SOXH Date Extracted: 05/31/2013
Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/03/2013
Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: 6.68 Sulfur Cleanup: (Y/N) N
Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	71	U
11104-28-2	Aroclor-1221	71	U
11141-16-5	Aroclor-1232	71	U
53469-21-9	Aroclor-1242	71	U
12672-29-6	Aroclor-1248	71	U
11097-69-1	Aroclor-1254	71	U
11096-82-5	Aroclor-1260	71	U
37324-23-5	Aroclor-1262	71	U
11100-14-4	Aroclor-1268	71	U

1H - FORM I ARO
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A4C23

Lab Name: Chemtech Contract: USEPA CLP Organics
 Lab Code: CHEM Case No.: 43395 Mod. Ref No.: E2426 SDG No.: A4C22
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: E2426-02
 Sample wt/vol: 50.1 (g/mL) g Lab File ID: PB005849.D
 % Moisture: 83.0 Decanted: (Y/N) N Date Received: 04/19/2013
 Extraction: (Type) SOXH Date Extracted: 05/31/2013
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 06/03/2013
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7.01 Sulfur Cleanup: (Y/N) N
 Acid Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	120	U
11096-82-5	Aroclor-1260	120	U
37324-23-5	Aroclor-1262	120	U
11100-14-4	Aroclor-1268	120	U



Attachment D

USEPA Contract Laboratory Program Statement of Work for Organic Analysis,
Multi-Media Multi-Concentration, SOM01.2 (Excerpt)
and
Modifications Updating SOM01.1 to SOM01.2, October 5, 2006, Updated 02-12-2007,
Amended 04-11-2007 (Excerpt)

Exhibit C -- Section 4
Aroclors Target Compound List and CRQLs

4.0 AROCLORS TARGET COMPOUND LIST AND CONTRACT REQUIRED QUANTITATION LIMITS¹

Aroclors	CAS Number	Quantitation Limits	
		Water	Soil
		ug/L	ug/kg
141. Aroclor-1016	12674-11-2	1.0	33
142. Aroclor-1221	11104-28-2	1.0	33
143. Aroclor-1232	11141-16-5	1.0	33
144. Aroclor-1242	53469-21-9	1.0	33
145. Aroclor-1248	12672-29-6	1.0	33
146. Aroclor-1254	11097-69-1	1.0	33
147. Aroclor-1260	11096-82-5	1.0	33
148. Aroclor-1262	37324-23-5	1.0	33
149. Aroclor-1268	11100-14-4	1.0	33

¹There is no differentiation between the preparation of low and medium soil samples in this method for the analysis of Aroclors.

EXHIBIT D – AROCLORS	
EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 1</i> Exhibit D - Aroclor: Section 7.2.3.4.1</p>	<p>The following Section:</p> <p>“Prepare five-point initial calibration standard solutions containing a mixture of Aroclors 1016 and 1260 at the following suggested levels: 100; 200; 400; 800; and 1600 ng/mL and surrogates at 5.0, 10, 20, 40 and 80 ng/mL for tetrachloro-m-xylene and 10, 20, 40, 80 and 160 ng/mL for decachlorobiphenyl. Also, prepare a single-point initial calibration standard solution containing Aroclors 1221, 1232, 1242, 1248, 1254, 1262, and 1268 at 400 ng/mL and surrogates at 20 ng/mL for tetrachloro-m-xylene and 40 ng/mL for decachlorobiphenyl. The solutions must be prepared every 6 months, or sooner if the solutions have degraded or concentrated.”</p> <p>Is updated to:</p> <p>“Prepare five-point initial calibration standard solutions containing a mixture of Aroclors 1016 and 1260 at the following suggested levels: 100; 200; 400; 800; and 1600 ng/mL and surrogates at 5.0, 10, 20, 40 and 80 ng/mL for tetrachloro-m-xylene and 10, 20, 40, 80 and 160 ng/mL for decachlorobiphenyl. <i>In addition, prepare a single-point initial calibration standard solution containing Aroclors 1221 at 400 ng/mL including surrogates, tetrachloro-m-xylene at 20 ng/mL and decachlorobiphenyl at 40 ng/mL. Also, prepare a single point calibration initial calibration standard of Aroclor 1232, 1242, 1248, 1254, 1262, and 1268 as instructed for Aroclor 1221.</i> Refer to Section 7.2.3.4.3 for five-point calibration standards of the other Aroclors. The solutions must be prepared every 6 months, or sooner if the solutions have degraded or concentrated.”</p>
<p><i>Aro-Item 2</i> Exhibit D - Aroclor: Section 7.2.3.4.2</p>	<p>The following Section:</p> <p>“Prepare a single-point calibration verification standard solution containing Aroclor 1260 and Aroclor 1016 at 400 ng/mL and surrogates at 20 ng/mL for tetrachloro-m-xylene and 40 ng/mL for decachlorobiphenyl. The solution must be prepared every 6 months, or sooner if the solution has degraded or concentrated.”</p> <p>Is updated to:</p> <p>“Prepare a single-point calibration verification standard solution containing Aroclor 1260 and Aroclor 1016 at 400 ng/mL and surrogates, <i>tetrachloro-m-xylene at 20 ng/mL and decachlorobiphenyl 40 ng/mL.</i> Additional <i>individual</i> calibration verification standard <i>solution(s)</i> containing any other Aroclor may be prepared when necessary at 400 ng/mL, <i>including surrogates, tetrachloro-m-xylene at 20 ng/mL and decachlorobiphenyl at 40 ng/mL.</i> The solution must be prepared every 6 months, or sooner if the solution has degraded or concentrated.”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 3</i> Exhibit D - Aroclor: Section 9.2.1</p>	<p>The following Section:</p> <p>“Summary of Initial Calibration</p> <p>Prior to sample analysis (including LCSs and MS/MSDs) and required blanks (method/sulfur cleanup/instrument), each GC/ECD system must be initially calibrated to determine instrument sensitivity and the linearity of Aroclor response. An initial five-point calibration is performed using Aroclors 1016 and 1260 to demonstrate the linearity of the detector response. The other seven Aroclors are calibrated at a single mid-point for pattern recognition. The standards for these seven Aroclors should be analyzed before the analysis of any samples, and may be analyzed before or after the analysis of the five levels of the Aroclor 1016/1260 standards.</p> <p>is updated to:</p> <p>Summary of Initial Calibration</p> <p>Prior to sample analysis (including LCSs and MS/MSDs) and required blanks (method/sulfur cleanup/instrument), each GC/ECD system must be initially calibrated to determine instrument sensitivity and the linearity of Aroclor response. An initial five-point calibration is performed using Aroclors 1016 and 1260 to demonstrate the linearity of the detector response. The other seven Aroclors can be calibrated at a single mid-point at a minimum, for pattern recognition. The standards for these seven Aroclors should be analyzed before the analysis of any samples, and may be analyzed before or after the analysis of the five levels of the Aroclor 1016/1260 standards.</p> <p>Note: All Aroclor target compounds may have five-point calibrations performed initially, prior to sample analyses. Alternately, as long as a valid five-point calibration of Aroclor 1016/1260 is present, five-point calibrations for any of the remaining Aroclor target compounds may be performed, prior to sample analyses.</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p>Aro-Item 4 Exhibit D - Aroclor: Section 9.2.2</p>	<p>The following Section:</p> <p>Each GC/ECD system must be initially calibrated upon award of the contract, whenever major instrument maintenance or modification is performed (e.g., column replacement or repair, cleaning or replacement of the ECD, etc.), or if the calibration verification technical acceptance criteria have not been met. Also, for any sample in which an Aroclor, other than Aroclor 1016 or Aroclor 1260 is detected, results for the specific Aroclor(s) may only be reported if the Aroclor(s) have been calibrated using multipoint standards (five-point). If time remains in the 12-hour period after a valid five-point initial calibration for a detected Aroclor(s) has been performed, then samples containing the Aroclor(s) may be analyzed. If the previously-analyzed five-point initial calibration containing the Aroclor(s) detected in the sample(s) is not in the same 12-hour sequence, then the sample(s) must be analyzed after a Continuing Calibration Verification (CCV) analysis containing the Aroclor(s) detected in the sample(s) that meets the criteria for CCVs in Section 9.3.</p> <p>is updated to:</p> <p>Each GC/ECD system must be initially calibrated upon award of the contract, whenever major instrument maintenance or modification is performed (e.g., column replacement or repair, cleaning or replacement of the ECD, etc.), or if the calibration verification technical acceptance criteria have not been met. Also, for any sample, in which an Aroclor (other than Aroclor 1016 or Aroclor 1260) is detected, for which a valid five point calibration curve is not available, results for these specific Aroclors must be reported as an estimated concentration with the appropriate compound qualifier. Subsequently, the sample must be re-analyzed following a valid five point calibration of the specific Aroclor. All sample analysis, must be preceded by an opening CCV with an Aroclor 1016/1260 CS3 standard, at a minimum. Additional Aroclor opening CCV standards may be analyzed at the laboratory's discretion. The closing CCV must include Aroclor 1016/1260 CS3 and all detected Aroclors in the sample. When an Aroclor, other than Aroclor 1016/1260, is detected in a sample, the closing CCV CS3 standard of this detected Aroclor standard must meet opening CCV technical acceptance criteria in Section 9.3.5, if the sample was not preceded by the Aroclor included as a CS3 standard in the opening CCV."</p>
<p>Aro-Item 5 Exhibit D – Aroclor: Section 9.2.3.3</p>	<p>The following Section:</p> <p>"If Aroclors other than Aroclor 1016/1260 are detected in an analysis, a separate five point calibration must be prepared (Section 7.2.3.4.3) and run for that particular Aroclor."</p> <p>is updated to:</p> <p>"If Aroclors other than Aroclor 1016/1260 are detected in a sample analysis, following a single-point calibration for that particular Aroclor, a separate five-point calibration must be prepared (Section 7.2.3.4.3) and run for that particular Aroclor, followed by a re-analysis of the sample."</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p>Aro-Item 6 Exhibit D – Aroclor; Section 9.2.3.5</p>	<p>Analyze the initial calibration sequence as given below.</p> <p>Initial Calibration Sequence</p> <ol style="list-style-type: none"> 1. Aroclor 1221 CS3 (400 ng/mL) 2. Aroclor 1232 CS3 (400 ng/mL) 3. Aroclor 1242 CS3 (400 ng/mL) 4. Aroclor 1248 CS3 (400 ng/mL) 5. Aroclor 1254 CS3 (400 ng/mL) 6. Aroclor 1262 CS3 (400 ng/mL) 7. Aroclor 1268 CS3 (400 ng/mL) 8. Aroclor 1016/1260 CS1 (100 ng/mL) 9. Aroclor 1016/1260 CS2 (200 ng/mL) 10. Aroclor 1016/1260 CS3 (400 ng/mL) 11. Aroclor 1016/1260 CS4 (800 ng/mL) 12. Aroclor 1016/1260 CS5 (1600 ng/mL) 13. Instrument blank <p>Note: The single-point Aroclor standards may be analyzed after the analysis of the five levels of the Aroclor 1016/1260 standards. The steps pertaining to the instrument blank are used as part of the calibration verification as well.</p> <p>is updated to:</p> <p>“Initial Calibration may be performed by any of the following sequence Options given below:</p> <p>Initial Calibration Sequence – Option 1</p> <ol style="list-style-type: none"> 1. Aroclor 1221 CS3 (400 ng/mL) 2. Aroclor 1232 CS3 (400 ng/mL) 3. Aroclor 1242 CS3 (400 ng/mL) 4. Aroclor 1248 CS3 (400 ng/mL) 5. Aroclor 1254 CS3 (400 ng/mL) 6. Aroclor 1262 CS3 (400 ng/mL) 7. Aroclor 1268 CS3 (400 ng/mL) 8. Aroclor 1016/1260 CS1 (100 ng/mL) 9. Aroclor 1016/1260 CS2 (200 ng/mL) 10. Aroclor 1016/1260 CS3 (400 ng/mL) 11. Aroclor 1016/1260 CS4 (800 ng/mL) 12. Aroclor 1016/1260 CS5 (1600 ng/mL) <p>Note: The single-point Aroclor standards may be analyzed after the analysis of the five levels of the Aroclor 1016/1260 standards in Option 1 above.</p> <p style="text-align: center;">OR</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 6</i> Exhibit D – Aroclor: Section 9.2.3.5 (Cont.)</p>	<p><u>Initial Calibration Sequence - Option 2</u> 5-points of Aroclor 1016/1260(100ng/mL to 1600ng/mL) 5-points of Aroclor 1221 (100ng/mL to 1600ng/mL) 5-points of Aroclor 1232(100ng/mL to 1600ng/mL) 5-points of Aroclor 1242(100ng/mL to 1600ng/mL) 5-points of Aroclor 1248(100ng/mL to 1600ng/mL) 5-points of Aroclor 1254(100ng/mL to 1600ng/mL) 5-points of Aroclor 1262(100ng/mL to 1600ng/mL) 5-points of Aroclor 1268(100ng/mL to 1600ng/mL)</p> <p style="text-align: center;">OR</p> <p><u>Initial Calibration Sequence - Option 3</u> 5-points of Aroclor 1016/1260(100ng/mL to 1600ng/mL) 5-points or single point Aroclor 1221 (100ng/mL - 1600ng/mL or 400ng/mL) 5-points or single point Aroclor 1232 (100ng/mL - 1600ng/mL or 400ng/mL) 5-points or single point Aroclor 1242 (100ng/mL - 1600ng/mL or 400ng/mL) 5-points or single point Aroclor 1248 (100ng/mL - 1600ng/mL or 400ng/mL) 5-points or single point Aroclor 1254 (100ng/mL - 1600ng/mL or 400ng/mL) 5-points or single point Aroclor 1262 (100ng/mL- 1600ng/mL or 400ng/mL) 5-points or single point Aroclor 1268 (100ng/mL - 1600ng/mL or 400ng/mL)</p> <p>Note: Option 2 and 3 Initial Calibration above may be performed in any Aroclor sequence as long as a valid five-point calibration of Aroclor 1016/1260 is present. Refer to Section 7.2.3.4 for initial calibration standard concentrations.</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 7</i> Exhibit D – Aroclor: Section 9.2.4.2</p>	<p>The following Section:</p> <p>“For Aroclors 1016 and 1260, an RT is measured for a minimum of 3 peaks in each of the five calibration standards and the mean RT (\overline{RT}) is calculated for each of the peaks as the average of the five values obtained from the five calibration standards. For Aroclors 1221, 1232, 1242, 1248, 1254, 1262, and 1268 an RT is measured for each of the peaks for a single-point calibration standard. If a valid five-point calibration is present for a specific Aroclor then an RT is measured for each of the peaks in each of the five calibration standards and the \overline{RT} is calculated as the average of the five values for each of the peaks obtained from the five calibration standards. An RT is measured for the surrogates in each of the five calibration standards and the \overline{RT} is calculated as the average of the five values. Calculate the \overline{RT} using Equation 1:</p> <p>is updated to:</p> <p>“For Aroclors 1016 and 1260, an RT is measured for a minimum of 3 peaks in each of the five calibration standards and the mean RT (\overline{RT}) is calculated for each of the peaks as the average of the five values obtained from the five calibration standards. For Aroclors 1221, 1232, 1242, 1248, 1254, 1262, and 1268 an RT is measured for a minimum of three peaks for a single-point calibration standard. If a valid five-point calibration is present for a specific Aroclor then an RT is measured for a minimum of three peaks in each of the five calibration standards and the \overline{RT} is calculated as the average of the five values for each of the peaks obtained from the five calibration standards. An RT is measured for the surrogates in each of the five calibration standards of Aroclor 1016/1260, or from Aroclor 1016 if analyzed as a separate mixture. The surrogate \overline{RT} is calculated as the average of the five values. Calculate the \overline{RT} using Equation 1.”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 8</i> Exhibit D – Aroclor: Section 9.2.4.4</p>	<p>The following Section:</p> <p>“The linearity of the instrument is determined by calculating a Percent Relative Standard Deviation (%RSD) of the Calibration Factors (CFs). Either peak area or peak height may be used to calculate CFs used in the %RSD equation.</p> <p>Five sets of CFs will be generated for the Aroclor 1016/1260 mixture, each set consisting of the CFs for each of the five peaks chosen for this mixture. The single standard for each of the other Aroclors will generate at least three CFs, one for each selected peak, unless a valid five-point calibration is present for a specific Aroclor, in which case five sets of CFs will be generated for the specific Aroclor.</p> <p>Calculate CFs, the Mean CF (CF), and the %RSD of the CFs for each peak in a selected set of a minimum of 3 major peaks for each Aroclor using Equations 2, 3, and 4.”</p> <p>Is updated to:</p> <p>“The linearity of the instrument is determined by calculating a Percent Relative Standard Deviation (%RSD) of the Calibration Factors (CFs). Either peak area or peak height may be used to calculate CFs used in the %RSD equation.</p> <p>Five sets of CFs will be generated for the Aroclor 1016/1260 mixture, each set consisting of the CFs for each of the peaks (minimum of three) chosen for this mixture. The single standard for each of the other Aroclors will generate at least three CFs, one for each selected peak, unless a valid five-point calibration is present for a specific Aroclor, in which case five sets of CFs will be generated for the specific Aroclor. Calibration Factors (CF) for the surrogates must be generated for each of the five calibration standards of Aroclor 1016/1260, or from Aroclor 1016 if analyzed as a separate mixture.</p> <p>The \overline{CF} of each surrogate compound is calculated as the average of the five values.</p> <p>Calculate CFs, the Mean CF (CF), and the %RSD of the CFs for each peak in a selected set of a minimum of 3 major peaks for each Aroclor using Equations 2, 3, and 4.”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 9</i> Exhibit D – Aroclor: Section 9.3.1</p>	<p>The following Section: “Summary of Continuing Calibration Verification (CCV)</p> <p>The analyses of instrument blanks and the required Aroclor CS3 Standard Mixtures (see Section 9.3.2) constitute the calibration verification. Sample (including LCS and MS/MSD) and required blank (method/sulfur cleanup) data are not acceptable unless bracketed by acceptable analyses of instrument blanks and the Aroclor CS3 Standard Mixtures. In cases where a valid five-point initial calibration for the detected Aroclors is required, that initial calibration may be substituted for the opening CCV.”</p> <p>Is updated to: “Summary of Continuing Calibration Verification (CCV)</p> <p>The analyses of instrument blanks and the required Aroclor CS3 Standard Mixtures (see Section 9.3.2) constitute the calibration verification. Sample (including LCS and MS/MSD) and required blank (method/sulfur cleanup) data are not acceptable unless bracketed by acceptable analyses of instrument blanks and the Aroclor CS3 Standard Mixtures.”</p> <p>Note the last sentence in the section is deleted: “In cases where a valid five-point initial calibration for the detected Aroclors is required, that initial calibration may be substituted for the opening CCV.”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 10</i> Exhibit D – Aroclor: Section 9.3.2.1</p>	<p>The following section:</p> <p>An instrument blank and Aroclor 1016/1260 CS3 Standard Mixture must bracket one end of a 12-hour period (opening CCV) during which sample and required blank data are collected, and a second instrument blank and the Aroclor 1016/1260 CS3 Standard Mixture must bracket the other end of the 12-hour period (closing CCV). If during any 12-hour period, an Aroclor other than 1016 or 1260 is detected and the 12-hour time period for the five-point initial calibration of the detected Aroclor(s) has elapsed, then an instrument blank and a CS3 standard of the detected Aroclor(s) must bracket both ends of the 12-hour period. If the opening CCV does not meet all technical acceptance criteria, then a new valid five-point initial calibration for the detected Aroclors must be performed before samples containing the detected Aroclors may be analyzed.</p> <p>is updated to:</p> <p>“An instrument blank and Aroclor 1016/1260 CS3 Standard Mixture must bracket one end of a 12-hour period (opening CCV) during which sample and required blank data are collected, a second instrument blank, Aroclor 1016/1260 CS3 and CS3 Standard Mixture (s) of any other detected Aroclor (s) must bracket the other end of a 12-hour period (closing CCV). Each opening CCV must include an instrument blank and Aroclor 1016/1260 CS3 standard, additional Aroclor CS3 standards may be performed at the laboratory’s discretion. If a valid five-point calibration is available for Aroclor (s) other than 1016/1260, an opening CCV with an instrument blank and Aroclor 1016/1260 CS3 is sufficient, however, the closing CCV must include all Aroclors detected and meet opening CCV technical acceptance criteria in Section 9.3.5.3.</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 11</i> Exhibit D – Aroclor: Section 9.3.2.2</p>	<p>For the 12-hour period immediately following the initial calibration sequence, the instrument blank is the last step in the initial calibration sequence and brackets the front end of that 12-hour period. The injection of the instrument blank starts the beginning of the 12-hour period (Section 10.3.2.1.1), followed by the injection of the Aroclor 1016/1260 CS3 Standard. Samples (including LCSs and MS/MSDs) and required blanks (method/sulfur cleanup) may be injected for 12 hours from the injection of the instrument blank. The first injections immediately after that 12-hour period must be an instrument blank and the Aroclor 1016/1260 CS3 Standard Mixture. The instrument blank must be analyzed first, before the standard.</p> <p>Is updated to:</p> <p>“The injection of an instrument blank starts the beginning of the 12-hour period (Section 10.3.2.1.1), followed by the injection of Aroclor 1016/1260 CS3 Standard and any additional CS3 Standard Mixture(s) as determined by the laboratory. Samples (including LCSs and MS/MSDs) and required blanks (method/sulfur cleanup) may be injected for 12 hours from the injection of the instrument blank. The first injections immediately after the previous 12-hour period must be an instrument blank, Aroclor 1016/1260 CS3 Standard and CS3 Standard Mixture(s) of any other detected Aroclor. A closing CCV must bracket the end of a 12-hour sequence.</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 12</i> Exhibit D – Aroclor: Section 9.3.2.3</p>	<p>The following Section:</p> <p>“The analyses of the instrument blank and CS3 Standard Mixture (closing CCV) immediately following one 12-hour period may be used to begin the subsequent 12-hour period as an opening CCV, provided that they meet the technical acceptance criteria in Section 9.3.5. In that instance, the subsequent 12-hour period must be bracketed by the acceptable analyses of an instrument blank and a CS3 Standard Mixture (closing CCV), in that order. Those two analyses may in turn be used to bracket the front end of yet another 12-hour period (opening CCV). This progression may continue every 12 hours until such time as any of the instrument blanks or the CS3 Standard Mixture fails to meet the technical acceptance criteria in Section 9.3.4, or an Aroclor has been detected in a sample for which the corresponding CS3 standard was not performed for the opening CCV. The 12-hour time period begins with the injection of the instrument blank.”</p> <p>is updated to:</p> <p>“The analyses of the instrument blank and CS3 Standard Mixture(s) (closing CCV) immediately following one 12-hour period may be used to begin the subsequent 12-hour period as an opening CCV, provided that they meet the technical acceptance criteria in Section 9.3.5. In that instance, the subsequent 12-hour period must be bracketed by the acceptable analyses of an instrument blank and a CS3 Standard Mixture(s) (closing CCV), in that order. Those two analyses may in turn be used to bracket the front end of yet another 12-hour period (opening CCV). This progression may continue every 12 hours until such time as any of the instrument blanks or the required CS3 Standard Mixture (s) fails to meet the technical acceptance criteria in Section 9.3.5.</p>
<p><i>Aro-Item 13</i> Exhibit D – Aroclor: Section 9.3.2.4</p>	<p>The following section is deleted:</p> <p>“If more than 12 hours have elapsed since the injection of the instrument blank that bracketed a previous 12-hour period, an acceptable instrument blank and an Aroclor 1016/1260 CS3 standard must be analyzed in order to start a new sequence. This requirement applies even if no analyses were performed since that standard was injected.”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 14</i> Exhibit D – Aroclor: Section 9.3.2.5</p>	<p>The following Section: “The requirements for running the instrument blanks and CS3 Aroclor 1016/1260 Standard Mixture are waived when no samples (including LCSs and MS/MSDs), dilutions, reanalyses, or required blanks (method/sulfur cleanup) are analyzed during that 12-hour period. To resume analysis, using the existing initial calibration, the Contractor must first analyze an instrument blank and CS3 Aroclor 1016/1260 Standard that meet the technical acceptance criteria.”</p> <p>Is updated to: “The requirements for running the instrument blanks and CS3 Aroclor 1016/1260 Standard Mixture are waived when no samples (including LCSs and MS/MSDs), dilutions, reanalyses, or required blanks (method/sulfur cleanup) are analyzed during that 12-hour period. To resume analysis, using the existing initial calibration, the Contractor must first analyze an opening CCV that consist of an instrument blank, Aroclor 1016/1260 CS3 Standard, and any additional CS3 Aroclor Standard (s) that meet the technical acceptance criteria. Note: Additional opening CCV CS3 Aroclor Standard (s) determined to be necessary are at the laboratory’s discretion.”</p>
<p><i>Aro-Item 15</i> Exhibit D – Aroclor: Section 9.3.2.5</p>	<p>The current “Section 9.3.2.5” is updated to “Section 9.3.2.4”.</p>
<p><i>Aro-Item 16</i> Exhibit D – Aroclor: Section 9.3.2.6</p>	<p>The following Section: “If the entire 12-hour period is not required for the analyses of all samples and blanks to be reported and all data collection is to be stopped, the sequence must be ended with the instrument blank/CS3 Aroclor Standard Mixture (s) (1016/1260 and all detected Aroclors) combination.”</p> <p>is updated to: “If the entire 12-hour period is not required for the analyses of all samples and blanks to be reported and all data collection is to be stopped, the sequence must end with an appropriate closing CCV combination, that is, an instrument blank/CS3 Aroclor 1016/1260 and all detected Aroclor CS3 Standard Mixture(s).”</p>
<p><i>Aro-Item 17</i> Exhibit D – Aroclor: Section 9.3.2.6</p>	<p>The current “Section 9.3.2.6” is updated to “Section 9.3.2.5”.</p>
<p><i>Aro-Item 18</i> Exhibit D – Aroclor: Section 9.3.2.7</p>	<p>The following Section: “No more than 14 hours may elapse from the injection beginning the opening CCV (instrument blank) and the injection ending the closing CCV (Aroclor Standard).”</p> <p>Is updated to: “No more than 14 hours may elapse from the injection beginning the opening CCV (instrument blank) and the injection ending the closing CCV (Aroclor Standard). If more than 12 hours elapse between the injections of the two instrument blanks (opening and closing CCV) that bracket a 12-hour period in which samples or required blanks are analyzed, then the time between the injection of the instrument blank (closing CCV) and the preceding sample may not exceed the length of one chromatographic run.”</p>

<p><i>Aro-Item 19</i> Exhibit D – Aroclor: Section 9.3.2.7</p>	<p>The current “Section 9.3.2.7” is updated to “Section 9.3.2.6”.</p>
<p><i>Aro-Item 20</i> Exhibit D – Aroclor: Section 9.3.4</p>	<p>The following Section: “Calculations for Calibration Verification</p> <p>For each analysis of the CS3 Individual Standard Mixture(s) used to demonstrate calibration verification, calculate the Percent Difference between the CF of each Aroclor peak (including the surrogates) in the standard mixture and the CF from the initial calibration, using Equation 5.”</p> <p>is updated to: “Calculations for Calibration Verification</p> <p>For each analysis of the CS3 Individual Standard Mixture(s) used to demonstrate calibration verification, calculate the Percent Difference between the CF of each Aroclor peak in the standard mixture and the CF from the initial calibration, using Equation 5. Calculate the Percent Difference between CF of surrogates in each standard mixture and the CF from the initial calibration of Aroclor 1016/1260 or 1016 if analyzed as a separate mixture, using Equation 5.”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p>Aro-Item 21 Exhibit D – Aroclor: Section 9.3.5.3</p>	<p>The following Section: “For the opening CCV, Percent Difference for each Aroclor peak and surrogates calculated from the CCV standard must not exceed $\pm 15\%$. For the closing CCV, Percent Difference for each Aroclor peak and surrogates calculated from the CCV must not exceed $\pm 50\%$. If the Percent Difference for the closing CCV is $\pm 15\%$ or less, then it can be used for the opening CCV of the next 12-hour period.” is updated to: “For the opening CCV, Percent Difference for each Aroclor peak and surrogates calculated from the CCV standard must not exceed $\pm 15\%$. For the closing CCV, Percent Difference for each Aroclor peak and surrogates calculated from the CCV must not exceed $\pm 50\%$. If the Percent Difference for the closing CCV is $\pm 15\%$ or less, then it can be used for the opening CCV of the next 12-hour period. Note: When a required closing CCV of an Aroclor other than Aroclor 1016/1260 is preceded by an opening CCV of Aroclor 1016/1260 CS3 only, the percent difference of each Aroclor peak and surrogate compound must not exceed $\pm 15\%$.”</p>
<p>Aro-Item 22 Exhibit D – Aroclor: Section 9.3.6.7</p>	<p>The following Section: “If a successful instrument blank and Aroclor 1016/1260 standard cannot be run after an interruption in analysis (Section 9.3.2.6), an acceptable initial calibration must be run before sample data may be collected. All acceptable sample (including LCS and MS/MSDs) and required blank (method/sulfur cleanup) analyses must be preceded and followed by acceptable standards and instrument blanks, as described in Section 9.3.2.” is updated to: “If a successful instrument blank and Aroclor 1016/1260 standard cannot be run after an interruption in analysis (Section 9.3.2.6), an acceptable initial calibration must be run before sample data may be collected. All acceptable sample (including LCS and MS/MSDs) and required blank (method/sulfur cleanup) analyses must be preceded and followed by acceptable instrument blanks and standards (opening and closing CCV) as described in Section 9.3.2.”</p>
<p>Aro-Item 23 Exhibit D - Aroclor: Section 10.2.2.3.1</p>	<p>The following Section: “Using a syringe or a volumetric pipet, transfer all of the hexane extract to a 10mL vial and, in a fume hood, carefully add 5mL of the 1:1 (v/v) sulfuric acid/water solution.” is updated to: “Using a syringe or a volumetric pipet, transfer an aliquot (1 or 2 mL) of the hexane extract to a 10mL vial and, in a fume hood, carefully add 5mL of the 1:1 (v/v) sulfuric acid/water solution.”</p>
<p>Aro-Item 24 Exhibit D – Aroclor: Section 10.2.2.3.1 and 10.2.2.3.2</p>	<p>The following Sections will be switched: The language for the updated sentence of Section 10.2.2.3.1 will become Section 10.2.2.3.2 and vice versa.</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)																																																																								
Aro-Item 25 Exhibit D – Aroclor: Section 10.3.2.1	<p>The following Section: “Analytical Sequence</p> <p>All acceptable samples must be analyzed within a valid analysis sequence as given below:</p> <table border="1"> <thead> <tr> <th>Time</th><th>Injection #</th><th>Material Injected</th></tr> </thead> <tbody> <tr> <td rowspan="3">0 hr.</td><td>1-12</td><td>First 12 steps of the initial calibration</td></tr> <tr> <td>13</td><td>Instrument blank</td></tr> <tr> <td>14</td><td>Aroclor 1016/1260 Standard</td></tr> <tr> <td rowspan="3">12 hr.</td><td></td><td>Sample</td></tr> <tr> <td></td><td>Last sample</td></tr> <tr> <td>1st injection past 12 hr.</td><td>Instrument blank</td></tr> <tr> <td rowspan="3">Another 12 hrs.</td><td>2nd injection past 12 hr.</td><td>Aroclor 1016/1260 standard</td></tr> <tr> <td></td><td>Subsequent samples</td></tr> <tr> <td></td><td>Last sample</td></tr> <tr> <td rowspan="3"></td><td>1st injection past 12 hr.</td><td>Instrument blank</td></tr> <tr> <td>2nd injection past 12 hr.</td><td>Aroclor 1016/1260 standard</td></tr> <tr> <td>3rd injection past 12 hr.</td><td>Sample</td></tr> </tbody> </table> <p>is updated to: “Analytical Sequence</p> <p>All acceptable samples must be analyzed within a valid analysis sequence as given below:</p> <table border="1"> <thead> <tr> <th>Time</th><th>Injection #</th><th>Material Injected</th></tr> </thead> <tbody> <tr> <td rowspan="4">0 hr.</td><td>1-12 (or 5-points of all Aroclors)</td><td>First 12 steps of the initial calibration (or 5-points of all Aroclors)</td></tr> <tr> <td>13</td><td>Instrument blank</td></tr> <tr> <td>14</td><td>Aroclor 1016/1260 Standard</td></tr> <tr> <td>15</td><td>Additional Aroclor CS3 Standard (optional)</td></tr> <tr> <td rowspan="4">12 hr.</td><td>16</td><td>Subsequent Samples</td></tr> <tr> <td></td><td>Last sample</td></tr> <tr> <td>1st injection past 12 hr.</td><td>Instrument blank</td></tr> <tr> <td>2nd injection past 12 hr.</td><td><i>Aroclor 1016/1260 Standard</i></td></tr> <tr> <td rowspan="4">14 hr.</td><td>3rd injection past 12 hr.</td><td>Detected Aroclor CS3 Standard (<i>as required</i>)</td></tr> <tr> <td></td><td>Detected Aroclor CS3 Standard (<i>as required</i>)</td></tr> <tr> <td>4th injection past 12 hr.</td><td>Subsequent Samples</td></tr> <tr> <td></td><td></td></tr> <tr> <td rowspan="4">Another 12 hrs.</td><td></td><td>Last sample</td></tr> <tr> <td>1st injection past 12 hr.</td><td>Instrument blank</td></tr> <tr> <td>2nd injection past 12 hr.</td><td>Aroclor 1016/1260 standard</td></tr> <tr> <td>3rd injection past 12 hr.</td><td>Sample</td></tr> </tbody> </table>			Time	Injection #	Material Injected	0 hr.	1-12	First 12 steps of the initial calibration	13	Instrument blank	14	Aroclor 1016/1260 Standard	12 hr.		Sample		Last sample	1 st injection past 12 hr.	Instrument blank	Another 12 hrs.	2 nd injection past 12 hr.	Aroclor 1016/1260 standard		Subsequent samples		Last sample		1 st injection past 12 hr.	Instrument blank	2 nd injection past 12 hr.	Aroclor 1016/1260 standard	3 rd injection past 12 hr.	Sample	Time	Injection #	Material Injected	0 hr.	1-12 (or 5-points of all Aroclors)	First 12 steps of the initial calibration (or 5-points of all Aroclors)	13	Instrument blank	14	Aroclor 1016/1260 Standard	15	Additional Aroclor CS3 Standard (optional)	12 hr.	16	Subsequent Samples		Last sample	1 st injection past 12 hr.	Instrument blank	2 nd injection past 12 hr.	<i>Aroclor 1016/1260 Standard</i>	14 hr.	3 rd injection past 12 hr.	Detected Aroclor CS3 Standard (<i>as required</i>)		Detected Aroclor CS3 Standard (<i>as required</i>)	4 th injection past 12 hr.	Subsequent Samples			Another 12 hrs.		Last sample	1 st injection past 12 hr.	Instrument blank	2 nd injection past 12 hr.	Aroclor 1016/1260 standard	3 rd injection past 12 hr.	Sample
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EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 26</i> Exhibit D – Aroclor: Section 10.3.2.1.1</p>	<p>The following Section:</p> <p>“The first 12 hours are counted from injection #13, not from injection #1. Samples may be injected until 12:00 hours have elapsed. All subsequent 12-hour periods are timed from the injection of the instrument blank that brackets the front end of the samples. If more than 12 hours elapse between the injections of two instrument blanks that bracket a 12-hour period in which samples or required blanks are analyzed, then the time between the injection of the instrument blank and the preceding sample may not exceed the length of one chromatographic run. While the 12-hour period may not be exceeded, the laboratory may run instrument blanks and standards more frequently, for instance, to accommodate staff working on 8-hour shifts. No more than 14 hours may elapse from the injection beginning the opening CCV (instrument blank) and the injection ending the closing CCV (Aroclor Standard).”</p> <p>is updated to:</p> <p>“Injections #1 through #12 in Section 10.3.2.1 may be expanded to include all injections of initial calibration standards as specified in Option 2 and 3 in Section 9.2.3.5. The first 12 hours are counted from injection #13, not from injection #1, in the initial calibration sequence Option 1 detailed in Section 10.3.2.1. Alternately, the first 12 hours will be counted from the injection of the instrument blank of an opening CCV when performed immediately after completion of the initial calibration Options 2 and 3. Samples may be injected until 12:00 hours have elapsed. All subsequent 12-hour periods are timed from the injection of the instrument blank that brackets the front end of the samples. If more than 12 hours elapse between the injections of two instrument blanks that bracket a 12-hour period in which samples or required blanks are analyzed, then the time between the injection of the instrument blank and the preceding sample may not exceed the length of one chromatographic run. While the 12-hour period may not be exceeded, the laboratory may run instrument blanks and standards more frequently, for instance, to accommodate staff working on 8-hour shifts. No more than 14 hours may elapse from the injection beginning the opening CCV (instrument blank) and the injection ending the closing CCV (Aroclor Standard).”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 27</i> <i>Exhibit D – Aroclor: Section 10.3.3.2</i></p>	<p><i>The following:</i> <i>"If the response of the largest peak for any Aroclor is greater than the response of the same peak in the high-point standard in the initial calibration for both columns, then the sample must be diluted to have the response of the largest peak of the lower of the two column analyses be between the low and high calibration standards."</i></p> <p><i>Is updated to:</i> <i>"If the concentration of the largest peak for any Aroclor is greater than the concentration of the same peak in the high-point standard in the initial calibration for both columns (the largest peak on the second column may be a different peak), then the sample must be diluted to have the concentration of the largest peak of the lower of the two column analyses be between the low and high calibration standards."</i></p>
<p><i>Aro-Item 28</i> <i>Exhibit D – Aroclor: Section 10.3.3.8</i></p>	<p><i>The following:</i> <i>"Use the results of the original analysis to determine the approximate DF required to get the largest analyte peak (for the lower of the two column responses) within the initial calibration range."</i></p> <p><i>Is updated to:</i> <i>"Use the results of the original analysis to determine the approximate DF required to get the largest analyte peak (for the lower of the two column concentrations) within the initial calibration range."</i></p>
<p><i>Aro-Item 29</i> <i>Exhibit D – Aroclor: Section 11.1.1.4</i></p>	<p><i>The following Section:</i> <i>"When an Aroclor other than 1016 or 1260 is detected in a sample, a valid five-point calibration curve specific to that Aroclor must be run, followed by reanalysis of the sample or appropriately diluted sample with the detected Aroclor present. The Mean Calibration Factor (CF) will be used to quantitate the analyte in the sample."</i></p> <p><i>is updated to:</i> <i>"When an Aroclor other than 1016 or 1260 is detected in a sample, using a single point calibration, a valid five point calibration of the specific Aroclor must be performed, followed by reanalysis of the sample or appropriately diluted sample (if the sample concentration of Aroclor exceeded calibration) with the Aroclor detected initially. If a valid five-point calibration curve is available for an Aroclor other than 1016 or 1260, the Mean Calibration Factor (\overline{CF}) will be used for quantitation of the Aroclor in the sample, however, quantitation of the surrogate compounds using surrogate data from the initial five-point Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture.</i></p> <p><i>Note: An estimated concentration (reported with an "S" flag) of the initial detection for an Aroclor other than 1016 or 1260, using a single point calibration standard will be quantitated using the Calibration Factor (CF), of at least 3 major peaks, from the specific single point calibration standard. The surrogates will be quantitated using the initial five-point Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture.</i></p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p>Aro-Item 30 Exhibit D – Aroclor: Section 11.2.1.1.1, Equation 7 The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:</p> $\text{Concentration } \mu\text{g/L} = \left(\frac{A_x}{\overline{CF}} \right) \left(\frac{DF}{V_i} \right) \left(\frac{V_i}{V_o} \right) \left(\frac{CV_{out}}{CV_{in} \times E} \right)_1 \left(\frac{CV_{out}}{CV_{in} \times E} \right)_2 \cdots \left(\frac{CV_{out}}{CV_{in} \times E} \right)_n$ <p>where,</p> <p>A_x = Peak area or peak height of the compound to be measured. \overline{CF} = Mean Calibration Factor determined from the initial calibration for the compound to be measured, in area/ng. DF = Dilution Factor. V_i = Volume of extract injected in μL. V_t = Volume of extract produced by the preparation process (extraction and concentration), and before cleanup, in μL. V_o = Volume of the original water sample extracted in mL. Note: for instrument blanks and sulfur blanks assume a volume of 1000mL. CV_{out} = Volume of extract produced by a cleanup process (cleanup and concentration), in μL. CV_{in} = Volume of extract subjected to a cleanup process, in μL. E = The efficiency of the cleanup process expressed as a fraction of material that passes through or is not mechanically lost during the cleanup step (e.g. 50% efficiency must be expressed as 0.50)</p>	
<p>Aro-Item 31 Exhibit D – Aroclor: Section 11.2.1.2.1, Equation 9 The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:</p> $\text{Concentration } \mu\text{g/kg} = \left(\frac{A_x}{\overline{CF}} \right) \left(\frac{DF}{V_i} \right) \left(\frac{V_i}{W_t \times D} \right) \left(\frac{CV_{out}}{CV_{in} \times E} \right)_1 \left(\frac{CV_{out}}{CV_{in} \times E} \right)_2 \cdots \left(\frac{CV_{out}}{CV_{in} \times E} \right)_n$ <p>where, A_x, \overline{CF}, DF, V_i, V_o, CV_{out}, CV_{in}, and E are the same as Equation 7 above.</p> <p>W_t = Weight of the original soil sample extracted in g. $D = \frac{100 - \% \text{Moisture}}{100}$</p>	

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 32</i> Exhibit D – Aroclor: Section 11.2.2</p>	<p>The following Section: “Target Compounds</p> <p>The quantitation of Aroclors must be accomplished by comparing the heights or the areas of each of a minimum of 3 major peaks of the Aroclor in the sample with the CF for the same peaks established during the specific five-point calibration. The concentration of multi-component analytes is calculated by using Equations 7 and 9, where A_x is the area for each of the major peaks of the Aroclor. The concentration of each peak is determined and then a mean concentration for a minimum of 3 major peaks is determined on each column.”</p> <p>is updated to: “Target Compounds</p> <p>Except for an estimated value reported for an Aroclor other than 1016 or 1260, The quantitation of Aroclors must be accomplished by comparing the heights or the areas of each of a minimum of 3 major peaks of the Aroclor in the sample with the CF for the same peaks established during the specific five-point calibration. The concentration of multi-component analytes is calculated by using Equations 7 and 9, where A_x is the area for each of the major peaks of the Aroclor. The concentration of each peak is determined and then a mean concentration for a minimum of 3 major peaks is determined on each column.”</p>
<p><i>Aro-Item 33</i> Exhibit D – Aroclor: Section 11.2.2.1</p>	<p>The following Section: “Note that the CFs used for the quantitation of Aroclors are the CFs from the concentration of the specific five-point calibration.”</p> <p>is updated to: “To quantitate and report the estimated concentration of an Aroclor other than 1016 or 1260, use the Calibration Factor (CF) for a minimum of 3 major peaks, from the single point Aroclor calibration standard used for the Aroclor pattern recognition. It will be necessary to substitute the single Calibration Factor (CF) for the Mean CF (\overline{CF}) in Equations 7, 8, 9 and 10.</p> <p>Note: The CFs used for the quantitation of target Aroclors are the CFs from the concentration of the specific five-point calibration.”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 34</i> Exhibit D – Aroclor: Section 11.2.3.1, Equation 12 The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:</p>	
EQ. 12	Adjusted CRQL Calculation for Water Samples
$\text{Adjusted CRQL} = (\text{Contract CRQL}) \left(\frac{V_x}{V_o} \right) \left(\frac{V_t}{V_y} \right) (DF) \left(\frac{CV_{out}}{CV_{in} \times E} \right)_1 \left(\frac{CV_{out}}{CV_{in} \times E} \right)_2 \dots \left(\frac{CV_{out}}{CV_{in} \times E} \right)_n$	
where,	
Contract CRQL	= The CRQL value reported in Exhibit C – Aroclors (µg/L).
V_x	= Contract sample volume (1000 mL).
V_o	= Volume of water extracted in mL. Note: for instrument and sulfur blanks assume a volume of 1000mL.
V_t	= Volume of water <i>concentrated extract</i> in µL.
V_y	= Contract concentrated extract volume (10,000 µL).
DF	= Dilution Factor.
CV_{out}	= Volume of extract produced by a cleanup process (cleanup and concentration), in µL.
CV_{in}	= Volume of extract subjected to a cleanup process, in µL.
E	= The efficiency of the cleanup process expressed as a fraction of material that passes through or is not mechanically lost during the cleanup step (e.g. 50% efficiency must be expressed as 0.50).

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 35</i> Exhibit D – Aroclor: Section 11.2.3.2 Equation 13 The equation is further expanded to allow for greater flexibility in the preparation and cleanup steps as follows:</p> <p>EQ. 13 Adjusted CRQL Calculation for Soil/Sediment Samples</p> $\text{Adjusted CRQL} = (\text{Contract CRQL}) \left(\frac{W_x}{W_s \times D} \right) \left(\frac{V_t}{V_y} \right) (DF) \left(\frac{CV_{out}}{CV_{in} \times E} \right)_1 \left(\frac{CV_{out}}{CV_{in} \times E} \right)_2 \cdots \left(\frac{CV_{out}}{CV_{in} \times E} \right)_n$ <p>where,</p> <p>Contract CRQL = The CRQL value reported in Exhibit C – Aroclors (µg/Kg).</p> <p>W_x = Contract sample weight (30 g).</p> <p>W_s = Weight of sample extracted in grams (g).</p> <p>D = $\frac{100 - \% \text{Moisture}}{100}$</p> <p>V_t = Volume of the concentrated extract in µL.</p> <p>V_y = Contract concentrated extract volume (10,000 µL).</p> <p>DF = Dilution Factor.</p> <p>CV_{out} = Volume of extract produced by a cleanup process (cleanup and concentration), in µL.</p> <p>CV_{in} = Volume of extract subjected to a cleanup process, in µL.</p> <p>E = The efficiency of the cleanup process expressed as a fraction of material that passes through or is not mechanically lost during the cleanup step (e.g. 50% efficiency must be expressed as 0.50).</p>	
<p><i>Aro-Item 36</i> Exhibit D – Aroclor: Section 11.2.4</p>	<p>The following Section :</p> <p>“The concentrations for surrogate compounds can be calculated by using Equation 7 (for waters) and Equation 9 (for soils) and the CF from the most recent initial calibration.”</p> <p>is updated to:</p> <p>“The concentrations for surrogate compounds can be calculated by using Equation 7 (for waters) and Equation 9 (for soils) and the CF from a valid initial five-point calibration of Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture.”</p>

EXHIBIT/SECTION(S)	MODIFICATION (S)
<p><i>Aro-Item 37</i> Exhibit D – Aroclor: Section 11.3.5</p>	<p>The following Section: “The RT for each of the surrogates must be within the RT window (Section 9.2.4.3) for both GC columns.”</p> <p>is updated to: “Surrogate compounds Retention Time (RT) must be compared to the window established during a valid initial five-point calibration of Aroclor 1016/1260 or from Aroclor 1016 if analyzed as a separate mixture. The RT for each of the surrogates must be within the RT window (Section 9.2.4.3) for both GC columns.”</p>
<p><i>Aro-Item 38</i> Exhibit D – Aroclor: Section 12.3.4.2</p>	<p>The following Section: “Calculate individual compound recoveries of the LCS using Equation 14”</p> <p>is updated to: “Calculate individual compound recoveries of the LCS using Equation 15”.</p>